DETERMINING SUCCESS ON THE KINDERGARTEN DEVELOPMENTAL READING ASSESSMENT AND TEXAS PROFICIENCY READING INVENTORY ASSESSMENTS

A Dissertation

by

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ABSTRACT

Determining whether or not a child completes the kindergarten academic year successfully is an important issue in education. This study examined kindergarten success by using the Developmental Reading Assessment (DRA) and the kindergarten Texas Primary Reading Inventory (TPRI).

This study looked at the DRA middle-of-year (MOY) and EOY assessments and the TPRI beginning-of-year (BOY) and end-of-year (EOY) assessments to determine if the student met mastery according to standards in Oak Independent School District (ISD). For this study, the primary question's independent variable was attendance in pre-kindergarten in Oak ISD prior to attending kindergarten in Oak ISD. The secondary question's independent variable was the gender of the student, and the dependent variables were DRA and TPRI results. A two-tailed t test was used for this study in order to examine how the different variables related to each other. The data for this study came from the 2013-2014 and 2014-2015 academic years' DRA and TPRI assessments.

Findings from the study included the following: There was a statistical significant increase in means for both the students who attended and who did not attend pre-kindergarten in Oak ISD on both the DRA and TPRI assessments according to the two-tailed t-test. The difference in means indicates that the scores for students who attended pre-kindergarten in Oak ISD were higher on the TPRI and lower on the DRA for the students who did not attend pre-kindergarten in Oak ISD. There was also a statistical significant increase in means for both the male and female students who

attended pre-kindergarten in Oak ISD on both the DRA and TPRI assessments according to the two-tailed t-test. The difference in means indicates that the scores of male students who attended pre-kindergarten in Oak ISD was higher on both the TPRI and the DRA than for the female students who also attended pre-kindergarten in Oak ISD.

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Contributors

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The data analyzed for Chapter 3 were provided by Bryan ISD. All other work conducted for the dissertation was completed by the student independently.

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NOMENCLATURE

BOY	Beginning-of-Year Assessment
CARS	Center for Academic and Reading Skills
DAP	Developmentally Appropriate Practice
DFPS	Department Family and Protective Services
DRA	Developmental Reading Assessment
ED	Economically Disadvantaged
EOY	End-of-Year Assessment
ESL	English as a Second Language
IRB	Internal Review Board
ISD	Independent School District
LEP	Limited English Proficiency
MOY	Middle-of-Year Assessment
NAEYC	National Association for the Education of Young Children
NCES	National Center for Education Statistics
NIEER	National Institute for Early Education Research
SES	Socioeconomic Status
TEA	Texas Education Agency
TEJAS LEE	El Inventario de Lectura en Español de Tejas
TPRI	Texas Primary Reading Inventory
USDA	United States Department of Agriculture

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CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

In the state of Texas, students are considered eligible to attend kindergarten if they are 5 years of age as of September 1 during the academic year they enroll for school. Although kindergarten is not required for all eligible students, deciding if a child is ready for kindergarten and if the child can successfully complete kindergarten holds great importance for both parents and educators alike.

This chapter begins with a review of the literature on learning readiness and its importance to success in kindergarten. The chapter then presents a review of the literature on the following: (a) defining pre-kindergarten and kindergarten, as well as an explanation of the importance of completing pre-kindergarten prior to attending kindergarten; (b) how/why low socioeconomic status makes a difference in learning; and (c) the history of the Texas Primary Reading Inventory (TPRI) and Developmental Reading Assessment (DRA) testing in kindergarten.

The Connection Between Readiness and Kindergarten Success

Readiness is linked with kindergarten, and at times these concepts are one and the same (Graue, 2001). Academic readiness is a concept that precedes learning and consists of the background knowledge and skills a child has to aid him or her in school success (Blaustein, 2005; Elkind, 1987; Snow, 2007, 2011). Typically, the word *readiness* is used in association with the classroom and other academic endeavors. Maxwell and Clifford (2004) stated:

> School readiness involves more than just children. School readiness, in the broadest sense, is about children, families, early environments, schools, and communities. Children are not innately "ready" or "not ready" for school. Their skills and development are strongly influenced by their families and through their interactions with other people and environments before coming to school. (p. 42)

Defining *academic readiness* depends on what literature and which researchers are being referenced. Several researchers define academic readiness with the following general concepts: (a) environment (High, 2008), (b) health and physical development (Kagan, Moore, & Bredekamp, 1995), (c) emotional well-being and social competence (Bassok &Reardon, 2013; Cooley, 2010; Kagan et al., 1995), (d) approaches to learning (Kagan et al., 1995), (e) communicative skills (Kagan et al., 1995), and (f) cognition and general knowledge (Bassok &Reardon, 2013; Cooley, 2010; Kagan et al., 1995).

When academic readiness is applied to a single child, the child's abilities and skills can be examined to decide how ready he or she is to learn. In 1991, there was a national mantra of "Ready to Learn," in which the National Education Goals Panel adopted as its first goal a statement that all children should be ready to enter school by the year 2000. According to the panel, there are three sections of school readiness (High, 2008):

1) Readiness in the child, defined by:

    a. Limited English language proficiency; or
    b. Physical well-being and motor development, including health status, growth, and disability;
    c. Social and emotional development, including turn-taking, cooperation, empathy, and the ability to express one's own emotions;
    d. Approaches to learning, including enthusiasm, curiosity, temperament, culture, and values;
    e. Language development, including listening, speaking, and vocabulary, as well as literacy skills, including print awareness, story sense, and writing and drawing processes; and

f. General knowledge and cognition, including sound-letter association, spatial relations, and number concepts.

2) School's readiness for children, ensured by:

a. Facilitating smooth transition between home and school, including cultural sensitivity;
b. Striving for continuity between early care and education programs and elementary school;
c. Using high-quality instruction, appropriate pacing, and understanding that learning occurs in the context of relationships;
d. Demonstrating commitment to the success of every child through awareness of the needs of individual children, including the effects of poverty and race, and trying to meet special needs within the regular classroom;
e. Demonstrating commitment to the success of every teacher;
f. Introducing approaches that raise achievement, such as parent involvement and early intervention for children falling behind;
g. Altering practices and programs if they do not benefit children;
h. Serving children in their communities;
i. Taking responsibility for results; and
j. Having strong leadership.

3) Family and community supports contributing to child readiness:

a. Mothers should receive excellent prenatal care and children should receive comprehensive health care, optimal nutrition, and daily physical activity so that children arrive at school with healthy minds and bodies;
b. All children should have access to high-quality preschool; and
c. As their child's first teacher, every parent should devote time daily to helping their child learn and should have access to education and support to be an effective teacher.

Ensuring that children are ready for successful school experiences is one of the most pressing issues in early childhood policy and practice. As national, state, and local efforts focus on school readiness, the National Association for the Education of Young Children (NAEYC, 2009) reaffirms its position on readiness, noting:

A commitment to promoting universal school readiness requires:

1. Giving all children access to the opportunities that promote school success,
2. Recognizing and supporting children's individual differences, and
3. Establishing reasonable and appropriate expectations for what children should be able to do when they enter school. (para. 2)

Some abilities that determine whether a child is ready for kindergarten are academic and social skills (Meisels, 1999), chronological age, and emotional age (Peth-Pierce, 2000). Looking at how easily a child adapts to academic life (Ladd, 1990; Ladd & Price, 1987) becomes important once the child is asked to participate in the classroom. However, applying the concept of readiness to an entire group of kindergarten-eligible students and assuming that all students are ready to learn once they enter kindergarten is a common misconception (Lewit & Baker, 1995).

Kindergarten Curriculum/Expectations

High (2008) stated:

> An emphasis on kindergarten readiness that looks only at the skills of a child places an undue burden of proof of readiness on that child and is particularly unfair because of economic, experiential, and cultural inequities in our society. Typical or normal development in 4- and 5-year-old children is highly variable, and labeling children at such an early age may cause them to be isolated from a more-appropriate learning environment. (p. e1010)

The modern kindergarten classroom is changing into a more diverse setting (Graue, 2001). During kindergarten, students are immersed into the basics of education, including mathematics, language arts, science, and social studies. Even though some children come to school knowing how to count, recognize numbers up to 10, sort objects, recognize letter-sound correspondence, realize phonemic awareness, display sight-word recognition, rhyme words, and connect word families and concepts, other

children do not arrive with those skills and knowledge levels (Blaustein, 2005). Whether the students come to kindergarten with this knowledge or not, the education of young children prior to attending kindergarten is important due to the amount of knowledge young children are able to absorb during this time period. Prior to attending kindergarten, children are primarily socialized and educated by their families and caregivers and the opportunities they have had to explore the world. These opportunities exist through going to the library, playing with their peers, going on family vacations, and other events. Although some students do not have the same access to opportunities, they are still learning from the adults in their lives and their environments. If a child has attended a pre-kindergarten environment, that education can supplement academic readiness.

Conclusion

The history of kindergarten in the United States and the impact that the founders and theorists of education have had on today's kindergarten classroom create a strong argument for children attending kindergarten in order to increase their chances for academic success. The standards and the expectations in the kindergarten classroom have become more rigorous in order to also aid the students in future academic success. Knowing that kindergarten readiness is becoming more important to later academic success, it makes sense that certain indicators could aid teachers in predicting academic success in their students. It is important to explore further what indicators teachers can use to predict the academic success of their kindergarten students. Two of the many indicators that need to be explored further are attending pre-kindergarten and low

socioeconomic status (SES). Does having information about whether the child attended pre-kindergarten and/or whether the child came from a low-SES home give teachers a way to predict the academic success of their student?

Topic 1: Defining Pre-Kindergarten and Kindergarten and an Explanation of the Importance of Completing Pre-Kindergarten Prior to Attending Kindergarten

Understanding the following information is critical when discussing the importance of completing pre-kindergarten prior to attending kindergarten: (a) history of kindergarten and the need for pre-kindergarten, (b) defining through multiple viewpoints of both, (c) demographics/attendance of both, and (d) the importance of historical and philosophical influences on children during this developmental period. The researcher divided this topic of the dissertation into the following sections. The first section discusses the demographics associated with attending pre-kindergarten. This section allows the reader to ascertain basic background knowledge about the growth of pre-kindergarten attendance and current attendance in the United States, the state of Texas, and Oak Independent School District (ISD). The next section discusses both a basic history of kindergarten (both in the United States and in the state of Texas) and the historical foundation of kindergarten. The researcher also includes a discussion on the current kindergarten classroom and how it has prompted the need for a pre-kindergarten classroom. Next, the researcher provides both the qualifications for pre-kindergarten as well as the State of Texas's definition, Oak ISD's definition, and the definition of pre-kindergarten (based on published research and the researcher's definitions of pre-kindergarten). Uncovering the history and the definition of pre-kindergarten is important

in order to ascertain the connection pre-kindergarten shares with kindergarten. The next two sections explore (a) demographics associated with attending kindergarten, and (b) the definition of kindergarten throughout the state of Texas and according to the researcher (based on published research and the researcher's definitions of kindergarten). The final section offers an explanation of the importance of completing pre-kindergarten prior to kindergarten by discussing philosophers of early childhood and their theories. This section draws connections between pre-kindergarten and kindergarten across different developmental theories.

Demographics/Attendance

While historically attending pre-kindergarten was not common for all students, today 40-60% (depending on which study one uses) of the pre-kindergarten-age population (i.e., 4-year-olds) attends some type of academic pre-kindergarten program. The National Institute for Early Education Research (NIEER) reported the percentage of pre-kindergarten students enrolled in each state during the 2012-2013 academic year. According to NIEER (2017), 52% of Texas 4-year-olds were enrolled in a state preschool. Texas's percentage compares favorably to the rest of the nation, with only seven other states (Florida, Georgia, Iowa, Oklahoma, Vermont, West Virginia, and Wisconsin) plus the District of Columbia having a higher percentage. The United States Census Bureau (2015) stated that in the city of Oak, in comparison to Texas and the nation, 78.5% of 4-year-olds were enrolled in a public-school program.

Between 1985 and 2013, of all the 5- and 6-year-old students who attended either public or private school, the total public and private school attendance figures decreased from 96% to 94% (National Center for Educational Statistics, 2016).

According to the Texas Education Agency (2017):

> Among the reforms generated by the 68th Texas Legislature in 1983 was the emerging recognition of the importance of early childhood education for certain high-risk kindergarten students. During a special session in the summer of 1984, legislators passed House Bill 72. This bill mandated [availability of] prekindergarten education for high-risk four-year-old students in Texas public schools." (para. 7)

The number of children, who are pre-kindergarten age, has been holding steady across the United States and Texas over the past few years. In 2015, 7.7% of the Texas population was under the age of 5, an increase of only 0.5% since 2010 (the latest statistics available). However, in 2010, 8.3% of the city of Oak's population was under the age of five (latest statistics available from the United States Census Bureau [2015]). Enrollment in the public school pre-kindergarten classroom has been increasing since the 1989-1990 academic year and has been holding steady since the 2009-2010 academic year, which can be seen in Figure 1 (P. Weirich, personal communication, February 7, 2017). The 1989-1990 academic year is the earliest year in which enrollment numbers were recorded.

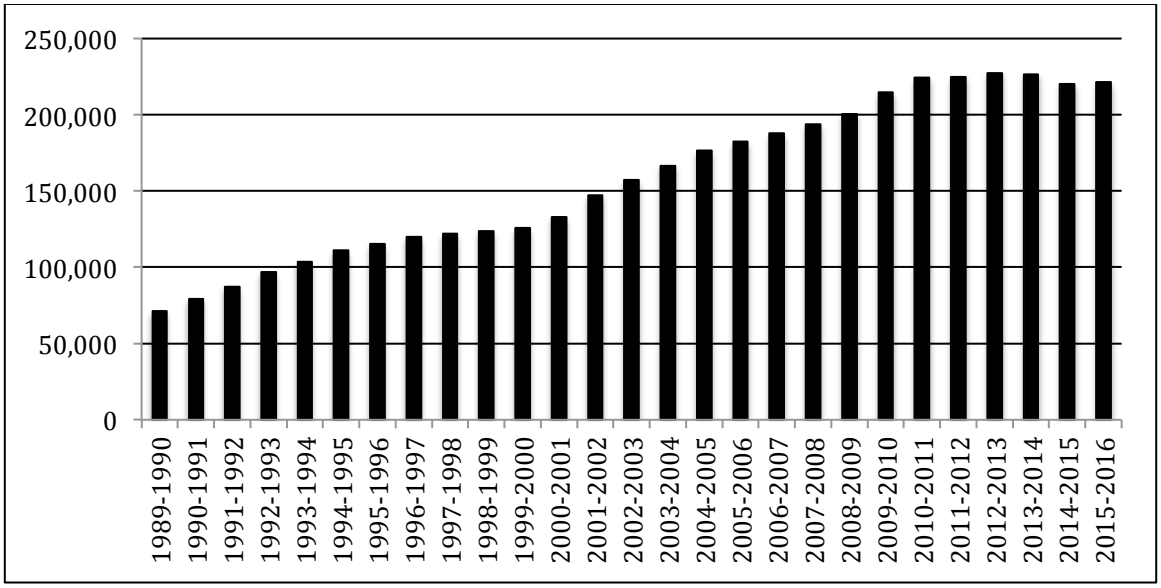
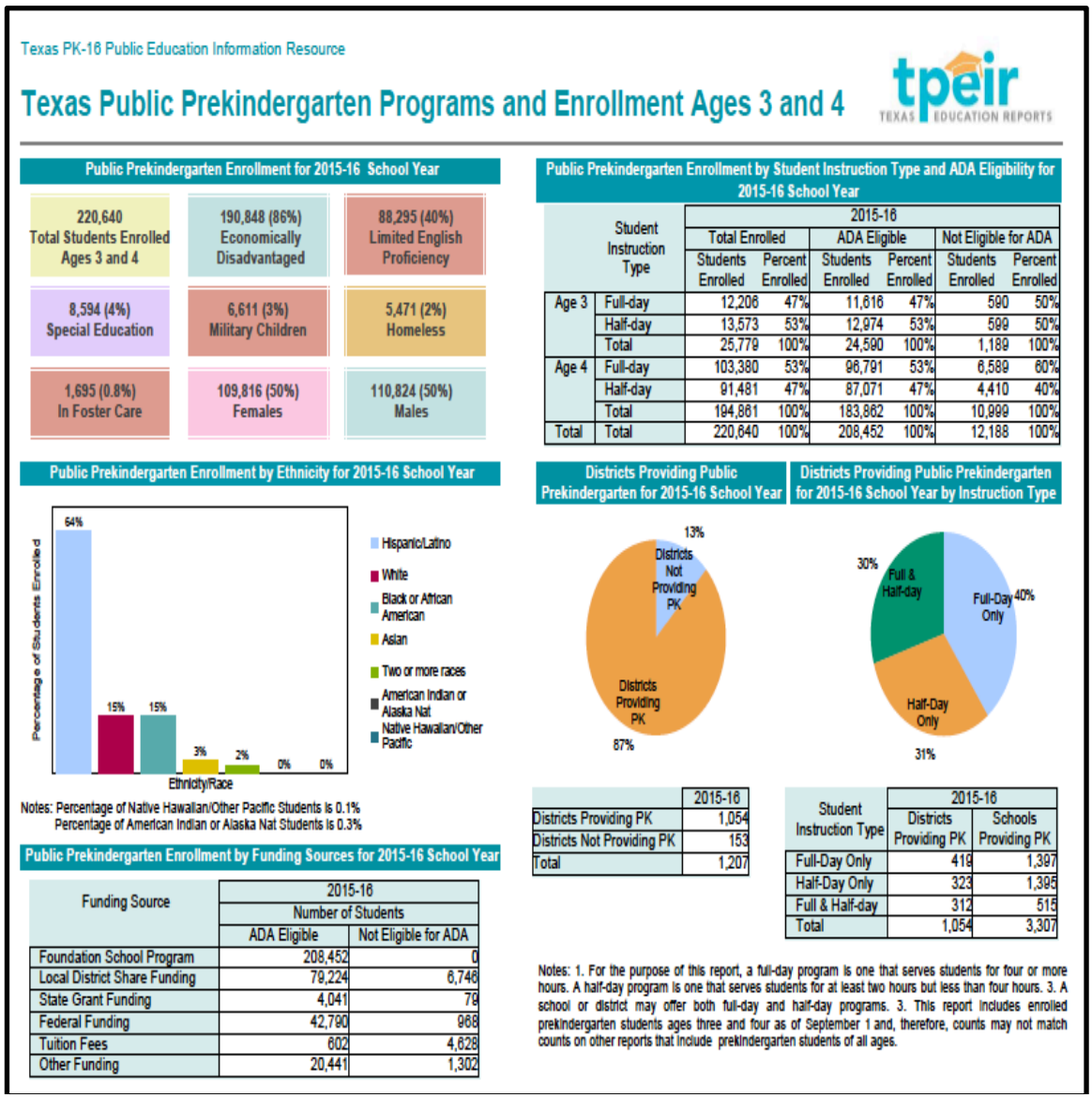


Figure 1. Pre-kindergarten enrollment 1989-2016 in the state of Texas (P. Weirich, personal communication, February 7, 2017).

Recent trends in early childhood education have focused on providing formal education experiences for greater numbers of children at much earlier ages (Barnett, Hustedt, Friedman, Boyd, & Ainsworth, 2007).

Not all eligible children in their state must attend a pre-kindergarten program. Families that qualify for pre-kindergarten have the option to send their child to public pre-kindergarten, private pre-kindergarten, or to keep them at home (Colker, 2014). Even after attendance in kindergarten became available for children who were 5 years of age on or before September 1 in the state of Texas in the 1960s, pre-kindergarten has not been required. However, once a child enrolls in a pre-kindergarten program, he or she is then required to stay enrolled in an educational program until completion of his or her educational experience. According to the Texas Education Agency (TEA, 2015), there were 225,037 children enrolled in pre-kindergarten during the 2011-2012 school year. In

Texas, this number represents 10% of Texas children aged birth to 5 years old. This is an increase from the number of students enrolled during the 2010-2011 academic year, which was 224,335 (TEA, 2015). Figure 2 shows a complete account of the data according to TPEIR in five categories: public pre-kindergarten enrollment, instruction type, ethnicity, funding sources, and district information. Comparisons between Oak ISD and the state of Texas are as follows: population, SES, ethnicity, districts that provide public pre-kindergarten, and instruction type found in Oak ISD during the 2015-2016 academic year. Oak ISD's numbers mirror the state's numbers. Oak ISD's demographics are very similar in SES, ethnicity, and instruction type.



Texas PK-16 Public Education Information Resource

Texas Public Prekindergarten Programs and Enrollment Ages 3 and 4

tpeir TEXAS EDUCATION REPORTS

Public Prekindergarten Enrollment for 2015-16 School Year

220,640 Total Students Enrolled Ages 3 and 4	190,848 (86%) Economically Disadvantaged	88,295 (40%) Limited English Proficiency
8,594 (4%) Special Education	6,611 (3%) Military Children	5,471 (2%) Homeless
1,695 (0.8%) In Foster Care	109,816 (50%) Females	110,824 (50%) Males

Public Prekindergarten Enrollment by Student Instruction Type and ADA Eligibility for 2015-16 School Year

Student Instruction Type		2015-16 Total Enrolled Students Enrolled	Total Enrolled Percent Enrolled	ADA Eligible Students Enrolled	ADA Eligible Percent Enrolled	Not Eligible for ADA Students Enrolled	Not Eligible for ADA Percent Enrolled
Age 3	Full-day	12,206	47%	11,616	47%	590	50%
	Half-day	13,573	53%	12,974	53%	599	50%
	Total	25,779	100%	24,590	100%	1,189	100%
Age 4	Full-day	103,380	53%	96,791	53%	6,589	60%
	Half-day	91,481	47%	87,071	47%	4,410	40%
	Total	194,861	100%	183,862	100%	10,999	100%
Total	Total	220,640	100%	208,452	100%	12,188	100%

Public Prekindergarten Enrollment by Ethnicity for 2015-16 School Year

Notes: Percentage of Native Hawaiian/Other Pacific Students is 0.1%
Percentage of American Indian or Alaska Nat Students is 0.3%

Districts Providing Public Prekindergarten for 2015-16 School Year

	2015-16
Districts Providing PK	1,054
Districts Not Providing PK	153
Total	1,207

Districts Providing Public Prekindergarten for 2015-16 School Year by Instruction Type

Student Instruction Type	2015-16 Districts Providing PK	2015-16 Schools Providing PK
Full-Day Only	419	1,397
Half-Day Only	323	1,395
Full & Half-day	312	515
Total	1,054	3,307

Public Prekindergarten Enrollment by Funding Sources for 2015-16 School Year

Funding Source	2015-16 Number of Students ADA Eligible	Not Eligible for ADA
Foundation School Program	208,452	0
Local District Share Funding	79,224	6,748
State Grant Funding	4,041	79
Federal Funding	42,790	968
Tuition Fees	602	4,628
Other Funding	20,441	1,302

Notes: 1. For the purpose of this report, a full-day program is one that serves students for four or more hours. A half-day program is one that serves students for at least two hours but less than four hours. 3. A school or district may offer both full-day and half-day programs. 3. This report includes enrolled prekindergarten students ages three and four as of September 1 and, therefore, counts may not match counts on other reports that include prekindergarten students of all ages.

Figure 2. Texas public pre-kindergarten programs and enrollment ages 3-4. Reprinted with permission from TEA (2016).

The first area in which comparison can be seen is the public pre-kindergarten enrollment for the 2015-2016 school year, which shows similarities between Texas public pre-kindergarten programs and Oak ISD's pre-kindergarten programs (see Table 1).

Table 1

Percent of Texas Public Pre-Kindergarten and Oak ISD Enrollment for 2015-2016 School Year Comparison

	Percent of Economically Disadvantaged	Percent of Limited English Proficient (LEP)	Percent of Special Education	Total Enrollment
Oak ISD	76%	20%	8%	15,741
Texas Public Pre-Kindergarten	86%	40%	4%	220,640

Source: TEA (2017b).

However, Texas's public pre-kindergarten statistics display a higher percentage than Oak ISD in both economically disadvantaged and LEP categories. Second, in the public pre-kindergarten enrollment by ethnicity statistics for the 2015-16 school year, the percentages also display some similarities (see Table 2).

Table 2

Percent of Texas Public Pre-Kindergarten and Oak ISD Ethnicities for 2015-2016 School Year Comparison

	Hispanic/ Latino	African American	White	Asian	2 or More Races	Other
Oak ISD	0.54	0.2	0.25			0.01
Texas Public Pre-Kindergarten	0.64	0.15	0.2	0.03	0.02	

Source: TEA (2017c).

While the Hispanic percentage is less than the state's percentage, both the white and African American percentages exceed that of the state.

For the districts providing public pre-kindergarten for the 2015-2016 academic year by instruction type section, Oak ISD is comparable to the rest of the state due to Oak ISD offering half-day program pre-kindergarten in which students either attend 3 hours in the a.m. or the p.m. sessions. Because pre-kindergarten's development is indelibly linked to kindergarten, it is important to have a basic working knowledge of the history of kindergarten and its influence on the foundations of pre-kindergarten.

Brief History of Kindergarten

Of all the movements and changes in education that have taken place over the course of the last 170 years, kindergarten is considered by some educators and researchers to be one of the most significant. This section presents a history of kindergarten (both the historical foundation of kindergarten and the history of kindergarten in the state of Texas) as well as provides a perspective of the current enrollment of kindergarten students both in Texas and in the United States. The goal of this section is to lay foundational knowledge in order for the reader to have a basic understanding of the concept of kindergarten.

Historical Foundation of Kindergarten

The concept of kindergarten was begun by the educator and philosopher Friedrich Froebel in 1837 (Lascarides & Hinitz, 2000). Along with Froebel, other early childhood education thinkers such as Johann Pestolozzi, Maria Montessori, Johann Herbert, and John Dewey (Allen, 2006; Bernard, 1988; Cooper, Allen, Patall, & Dent, 2010; Heuer, 1998; Lascarides & Hinitz, 2000; Peltzman, 1998; Saracho & Spodek,

1995) established distinct educational practices and had enormous influence on early childhood education in the United States.

Many scholars and researchers of early childhood consider Friedrich Froebel to be the father of kindergarten. Froebel founded the first kindergarten in 1837. The word *kindergarten* combines two German words meaning children and garden, so this phrase can be translated as "the garden for the children." Lascarides and Hinitz (2000) stated that Froebel, like many of his contemporaries, "had become dissatisfied with the existing educational system and the rote teaching method used at all levels. He believed that this system was depriving the students of real knowledge and truth acquired through the student's observation and inquiry" (p. 85). In response to this dissatisfaction, Froebel created kindergarten classrooms that allowed students to learn through play, music, physical activities, and outdoor activities as an educational method, as well as through structured activities, which the children learned through the occupations. According to Peltzman (1998), "Froebel attempted to build a new system of education suited to the needs of young children and that would provide materials to help children organize and understand the world" (p. 25). Children were given the opportunity to be creative with their learning, as fostered by Froebel, in order to develop through a strong education inside and outside the classroom. Frobel also asserted that school should be creative, allowing children to freely express their natural self-activity. Froebel's idea of kindergarten entered the American educational system in the mid-1800s. Margarethe Schurz, a German-American, started the first kindergarten program in 1856 in her

hometown of Watertown, Wisconsin, for her daughter Agathe and four neighbor children.

The History of Kindergarten in the State of Texas

The first kindergarten was established in Texas, in 1893, by Olga Bernstein Kohlberg, an El Paso philanthropist. In 1891, Kohlberg assisted in organizing the Child Culture Study Circle of local women to promote interest in the education of young children (Kohout, 2016). Subsequently, the El Paso Board of Education established the first free public kindergarten in Texas, which opened in September 1893 (Long, 2016). The earliest published works referencing kindergarten in Texas can be found in a 1916 issue of the *El Paso Times*.

Kindergarten Today and the Need for Pre-Kindergarten

After the inception of kindergarten in the United States, researchers and educators began to examine both the kindergarten classroom and rigor associated with the academic success of kindergarteners. School districts aspired for students to have the opportunity for academic success; however, there were two realizations/problems that schools and the education system in general needed to acknowledge: (a) by the time some students are kindergarten age, they are already a few steps behind their peers in academic readiness skills; and (b) as these same students progress toward completion of elementary, middle, and high school, the separation between them and their academically ready peers becomes wider and more difficult to resolve. In order to solve these two problems, pre-kindergarten was devised with the purpose of setting the nation's young students up for success during their kindergarten year and beyond.

Beginning in 1984, Texas public schools were required to allow all eligible students to attend state-funded pre-kindergarten programs. Pre-kindergarten was "enacted in May 1985 across the state of Texas for eligible children. It became effective in the 1985-1986 school year" (M. Glaser, personal communication, February 2, 2017). By 1995, TEA began monitoring and evaluating pre-kindergarten classrooms. The No Child Left Behind Act of 2001 (NCLB), which is one of the leading forces in education in America, was put into effect. The purpose of the NCLB legislation was to level the educational system for all students by ensuring that all students in every public school achieve academic goals while (a)being educated in safe classrooms, and (b)having well-prepared teachers. With NCLB, schools initiated plans to guarantee that all students reach academic success and that no student is left behind. By Texas providing pre-kindergarten programs, low-SES students have the opportunity to acquire the knowledge necessary for success within the public school system. In Texas, according to TEA, schools must have a pre-kindergarten program if "the school district identifies 15 or more eligible children who are at least four years of age by September 1 of the current school year. A school district may offer prekindergarten classes if the district identifies 15 or more eligible children who are at least three years of age" (TEA, 2015, para. 4).

Recent studies state that there needs to be a focus on offering formal education experiences for younger students at earlier ages (Barnett et al., 2007) in order to promote cognitive development (Anderson et al., 2003; Camilli, Vargas, Ryan, & Barnett, 2010; Diamond, Barnett, Thomas,& Munro, 2007; Gorey, 2001; Nelson, Westhues, & MacLeod, 2003),emotional development (Gordon, 2015), an increase of early literacy

development (Dickinson & Neuman, 2006; Neuman & Dickinson, 2001; Snow, Burns, & Griffin, 1998), mathematics (Clements, Sarama, & Debase, 2004; Kilpatrick, Swafford, & Findell, 2001), physical development (Gordon, 2015), and social development (Camilli et al., 2010; Gordon, 2015; Gorey, 2001; Nelson et al., 2003). Both teachers and researchers report that students who enter kindergarten having completed an academic program are more successful than their peers who do not attend academic programs prior to kindergarten (Barnett, 1998).

Defining Pre-Kindergarten

The literature on the education of 3- and 4-year-olds does not consistently use the same term to refer to their education (Early et al., 2010; Invernizzi, Landrum, Teichman, &Townsend, 2010; Zucker, Moody, &McKenna, 2009). For the purposes of this dissertation, the terms *pre-kindergarten* and *preschool* are used interchangeably. Colker (2014) stated:

> Pre-K programs are a distinct group of programs designed specifically to make sure that preschoolers are ready for kindergarten and will be succeeding in school by third grade. All pre-K programs have three characteristics in common. They are (1) governed by high program standards, (2) serve 4-year-olds or sometimes both 3- and 4-year–olds, and (3) focus on school readiness. (p. 22)

Several researchers define pre-kindergarten by the following two general specifications: (a) characteristics of the pre-kindergarten foundation, and (b) characteristics of the classroom environments in which the students are directly exposed due to the result of enrollment in the pre-kindergarten classroom (Lamb, 1998; Mashburn et al., 2008; Phillips & Howes, 1987; Vandell & Wolfe, 2000).

The following qualifications determine eligibility for pre-kindergarten students:

1) Four years old on or before September 1.
2) Meet one of the following eligible reasons:
   a. Limited English language proficiency; or
   b. Income within guidelines for free/reduced meals (proof of income required); or
   c. Be homeless; or
   d. Be the child of an active duty member of the armed forces of the United States, including the state military forces or a reserved component of the armed forces, who is ordered to active duty by proper authority; or
   e. Be the child of an active duty member of the armed forces of the United States, including the state military forces or a reserved component of the armed forces, who was injured or killed while serving on active duty; or
   f. Have ever been in the conservatorship of the Texas Department Family and Protective Services (DFPS) (foster care) following an adversary hearing. (Oak ISD, 2017)

Oak ISD qualifications mirror those of the state of Texas. According to TEA (2017a), a student is eligible for pre-kindergarten under the following conditions as long as the child is at least 3 years of age and fits at least one of the following criteria:

- Be unable to speak and comprehend the English language.
- Be educationally disadvantaged, which means that the student is eligible to participate in the national free or reduced-price lunch program.
- Be homeless, as defined by United States Code (U.S.C.) 42 Section 1143a, regardless of the residence of the child, of either parent of the child, or of the child's guardian or other person having lawful control of the child.
- Be the child of an active duty member of the armed forces of the United States, including the state military forces or a reserve component of the armed forces, who is ordered to active duty by proper authority; or is the child of a member of the armed forces of the United States, including the state military forces or a reserve component of the armed forces, who was injured or killed while serving on active duty.
- Be in, or have been in, the conservatorship of the Department of Family and Protective Services (DFPS) following an adversary hearing held as provided by Section 262.201, Family Code. (para. 2)

Enrollment in Public School Kindergarten Classrooms in the United States and the State of Texas

Currently, pre-kindergarten enrollment in the United States is steadily increasing. The National Center for Education Statistics (NCES, 2016) stated that from 1990 to 2014, the percentage of 3- to 5-year-olds enrolled in pre-kindergarten programs increased from 59% to 65%. According to the Research and Analysis Division at TEA, the enrollment in public school kindergarten classrooms has been increasing in the State of Texas since the 1990-1991 academic year and has holding steady since the 2005-2006 academic year (P. Weirich, personal communication, February 7, 2017). Figure 3 provides the details. The 1990-1991 academic year is the earliest year enrollment numbers were recorded.

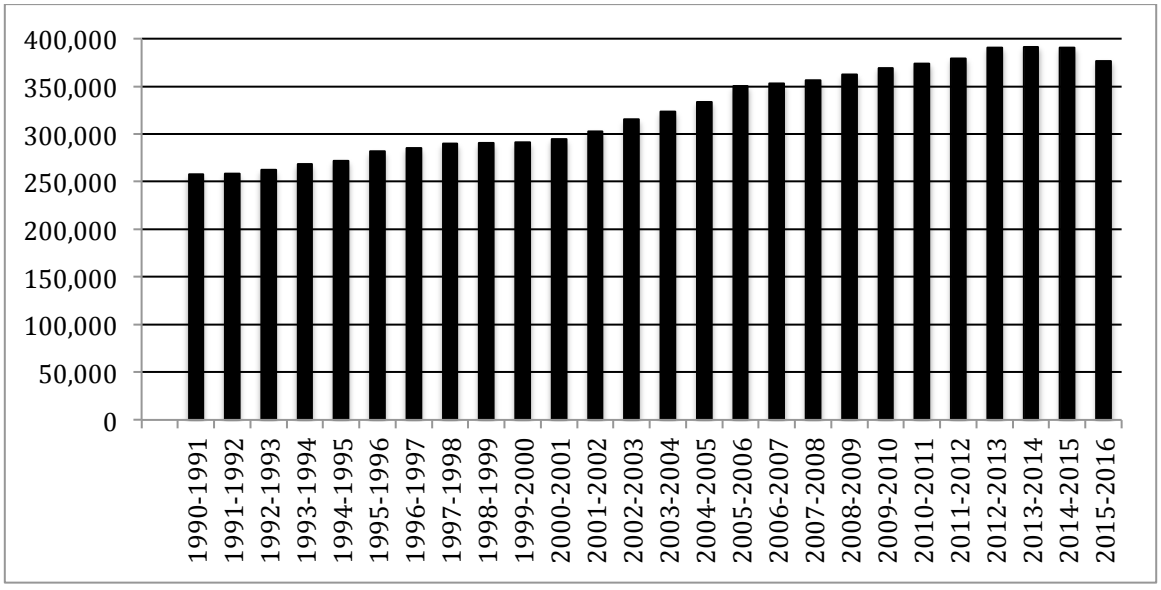


Figure 3. Kindergarten enrollment 1990-2016 in the State of Texas (P. Weirich, personal communication, February 7, 2017).

The United States Census Bureau, (2015), in the most recent statistics, reported that "there were a total of 2,859,000 kindergarteners reportedly enrolled in kindergarten in the United States during October 2015. From this total enrollment, 2,575,000 of these students were enrolled in a public kindergarten" (p. 1).

Defining Kindergarten

According to TEA (2016), to be eligible for kindergarten, a child must be 5 years old by September 1, and school attendance is compulsory for children who are 6 years old as of September 1 of that year. It is also important to consider that kindergarten classrooms today are diverse and are evolving. Kindergarten and the demands that are placed on kindergarteners need to have the potential to be diverse and evolve as the curriculum and the needs of students change. According to Graue (2001), "We should not assume that kindergarten is one single thing, but realize that we have choices" (p. 68).

Definition of Kindergartener According to the Researcher

Based on the research presented, for the purposes of this study a kindergartener is defined as a student who (a) attended Oak Independent School District's public pre-kindergarten program prior to attending a kindergarten within the same district the following academic year, (b) attended the complete kindergarten academic year, (c) did not repeat kindergarten (i.e., the student's age is 5 or 6 years), and (d) completed this academic year prior to attending first grade.

Explanation of the Importance of Completing Pre-Kindergarten Prior to Attending Kindergarten

Philosophers of Early Childhood. Researchers define thinking styles as the mental frameworks that enable individuals to develop information and resolve problems in specific contexts (Holmes, Liden, & Shin, 2013; Saracho, 1998; Zhang & Sternberg, 2006, 2009). Over the course of time, researchers and philosophers alike have discussed and theorized what thinking styles are necessary for students to be successful in kindergarten. Hedegaard (2009) stated that:

> Educational practice is constructed on the basis of theories and values about children and childhood. Upbringing and education are directed toward ideals of how to bring the children through the educational system. One could expect that in schools this can be done by formulating expectations concerning what the skills and knowledge children should acquire, but as soon as a child's home and nursery/kindergarten get involved it becomes more obvious that a more general developmental perspective is implied. (p. 68)

In addition to the philosophers, theorists, and founders of kindergarten/early childhood mentioned above, Jean Piaget, Erik Erikson, and Lev Vygotsky offered connections between pre-kindergarten and kindergarten based on specific stages they envisioned for children ranging from birth to 12 years of age.

Typically, Piaget placed pre-kindergarteners in the early pre-operational cognitive developmental stage; Erikson placed them in both the completion of the psychological developmental stages of initiative versus guilt and the beginning of industry versus inferiority; and Vygotsky placed them in the middle stages of language development—egocentric speech. Knowing the developmental stages for a typical kindergartener allows educators to assist their students in order to increase the student's

level of academic success. Table 3 is a visual on the philosophers discussed in this section of the dissertation and their stages of development.

Table 3

Philosophers of Early Childhood in Relation to Kindergarten Success

	0 Months	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 year old	8 Years	9 Years	10 Years	11 Years	12 Years
Piaget's Cognitive Development Stages	Sensorimotor			Preoperational					Concrete				
	0 Months	1.5 Years	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years	11 Years	12 Years
Erikson's Psychosocial Development	Trust vs. Mistrust		Autonomy vs. Shame		Initiative vs. Guilt		Industry vs. Inferiority						
	0 Months	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	7+ Years				
Vygotsky's Stages of Language Development	Pre Intellectual Social Speech				Egocentric Speech				Inner Speech				

Piaget (1959) identified two types of learning: (a) *learning in the strict sense* is defined as the acquisition of information, and (b) *learning in the broad sense* includes both learning in the strict sense and equilibration. Piaget acknowledged four primary stages for cognitive development: sensorimotor, preoperational, concrete operational, and formal operational. Piaget suggested that each child progresses steadily through these stages and that the child experiences each stage in order to form the foundations to move on to the next stage (Berk, 1997; Ojose, 2008). A person must pass through each stage before starting the next one. Furthermore, these stages are considered to be broad periods in a child's development (Piaget, 1971). In other words, these stages are wide-ranging and encompass several skills that the child needs to acquire in order to move on to the next stage successfully. The four developmental stages in Piaget's theory are the result of interactions and experiences that the child goes through either alone or with

guidance (Gallagher & Reid, 1981). The child uses these interactions and experiences to decide how and why the world works. The preoperational stage is both an extension of the sensorimotor stage and the basis for the concrete operations (Inhelder, 1977). During this stage, growth occurs and the foundations are set in place for the next stage.

Piaget's theory has influenced concepts of what researchers, teachers, and even parents have come to expect from children when they begin their formal academic learning (Hedegaard, 2009). Elementary teachers, in particular early education teachers, use Piaget's theory in order to either support or contradict the educational reform initiatives (Bredekamp, 1987; Bredekamp & Copple, 1997; Hinde & Perry, 2007). Both pre-kindergarten and kindergarten students are in Piaget's preoperational stage. During the preoperational stage, the child is characterized, according to Ojose (2008), as having an:

> increase in language ability, symbolic thought, egocentric perspective, and limited logic. In this second stage, children should engage with problem-solving tasks that incorporate available materials…. There is lack of logic associated with this stage of development; rational thought makes little appearance. The child links together unrelated events, sees objects as possessing life, does not understand point-of-view, and cannot reverse operations. Children's perceptions in this stage of development are generally restricted to one aspect or dimension of an object at the expense of the other aspects.… One of the important challenges in mathematics teaching is to help students make connections between the mathematics concepts and the activity. (pp. 27-28)

Piaget (1951, 1952) described children in this stage as not being able to use logic or transform or combine unconnected thoughts. When teaching students in this stage of development, teachers need to employ effective questioning about characterizing objects (Ojose, 2007), hands-on experiences (Burns & Silbey, 2000), and multiple different

ways to view and represent mathematical solutions (Burns & Silbey, 2000). Different ways to view representations tend to be helpful for kindergarten-aged students:

> A child at the preoperational stage is able to deal with problems involving a constituent function, or functional dependencies, he or she has a powerful tool available to understand relationships. However, the tool is limited because it is based on qualitative identity, a semilogic of one-way relationships that is not the logic of reversible operations. (Eggen & Kauchak, 2000, p. 82)

Erikson's (1950) psychological developmental theory encompasses eight stages that range from birth to adulthood. During each stage, a person has the possibility to experience a psychosocial crisis with either a positive or negative outcome for personality development. Erikson's work is considered to be an extension of Freud's work because Erikson included societal influence on personality formation (Krishnan, 2010). During pre-kindergarten, a child is entering the initiative versus guilt stage. During kindergarten, a child is in the conclusion of the initiative versus guilt stage and entering the industry versus inferiority stage. It becomes vital for pre-kindergarten students to have a strong foundation in the initiative versus guilt stage in order to continue progressing during their kindergarten-age years. Through the initiative versus guilt stage, students learn skills required for participation in adult society. The industry versus inferiority stage is characterized by environmental and social strains assigned to the child. This stage is important because it allows the child to acquire and build strong work routines and patterns (e.g., industriousness) (Erikson, 1950). A child continues to be in the industry versus inferiority stage from ages 6 to 11, so it important for students to establish a strong foundation during their kindergarten-age years. As for the stage of

industriousness, Erikson theorized that this stage is also consistent with the present conceptualization of engagement (Fitzpatrick, 2012).

Language development is critical for a child to assimilate more complicated material. Language development is considered to be the main tool that (a) stimulates thinking, (b) acquires reasoning, and (c) supports cultural activities like reading and writing (Vygotsky, 1978). Educators should allow their students the opportunity for supervised conversations about what they are learning. During language development, children interact with their social environment in order to create cognition. As a child's social environment develops, their language development grows at a positive and increasing rate (Berk, 1997). Vygotsky's (1978) language development theory has three stages. Both pre-kindergarten- and kindergarten-age students are in the egocentric speech stage. Children during this stage begin to process what adults and other people in the children's life discuss in their social environment and start to apply it to related settings by themselves. During this stage, both pre-kindergarten and kindergarten students are using language to control their behavior and to allow them to verbalize their thoughts while playing games and discussing/taking part in their learning. This stage is important in a child's language development because the next stage (inner speech, which occurs at age 7) allows the student to internalize the speech.

Topic 2: How/Why Does Low Socioeconomic Status Make a Difference in Learning?

Many students from low-SES homes enter the classroom academically behind their peers, which is a phenomenon that has been recognized by researchers since the

Coleman (1966) report. Coleman wrote the controversial and influential report entitled *The Evaluation of Equality of Educational Opportunity*, which discussed the significance of low-SES students and ways in which schools might overcome the inequalities regarding these children when entering school. White (1982) stated, "For many educators, the Coleman report confirmed what they had thought they had known for years: that a strong relation exists between all kinds of academic achievement variables and what has come to be known as socioeconomic status (SES)" (p. 461). Since Coleman's report, many other researchers have published journal articles and meta-analyses exploring the same relationship (Bornstein & Bradley, 2003; Keating & Hertzman, 1999; Letourneau, Leger, Levac, Watson, & Morris, 2013; Steinhauer, 2002; Willms, 2002). In addition, there have been two meta-analysis studies focusing on the relationship between SES and academic achievement. White (1982) completed a meta-analysis of articles before 1980 in which the relationship between SES and academic achievement was considered. Sirin (2005) completed a meta-analysis on socioeconomic status and academic achievement of journal articles published between 1990 and 2000. Both studies reached the same conclusion as the 1966 Coleman report: there is a strong correlation between SES and academic achievement. Although the relationship between low SES and academic achievement is discernable, research is still needed in order to fully explain and understand the relationship (Bradley & Corwyn, 2002; Considine & Zappalà, 2002; Letourneau et al., 2013; Tajalli & Opheim, 2004). This section of the literature review is divided into the following two sections: (a) defining SES and (b) the effect of low SES on kindergarten students' academic preparedness.

Before entering into a discussion of how low SES affects a child's academic success in school, it is important to first properly define SES. However, defining SES is very complex due to the many different variables that can be included in the definition, the research that is used, and the point of view of the researcher (Chapin, 1928; Coleman, 1988; Mueller & Parcel, 1998; White, 1982). In this dissertation, the researcher has defined SES based on the following divisions and assigned each to its own section of discussion. The first definition is based on published research. In this section, the researcher has defined SES and defined economically disadvantaged students as well as bridged the connection between the two. Discovering the connection between these two ideas is important in order to explain the relationship between low-SES students and students who qualify for free and/or reduced lunches. In the second section, the researcher presents a definition of SES according to the state of Texas. In this section, the researcher connects the state of Texas's definition to the low-SES student and the student who qualifies for free and/or reduced lunch relationship. In the third section, the researcher presents a definition of SES as defined by Oak Independent School District. The researcher also connects Oak Independent School District's definition to the low-SES students and students who qualify for free and/or reduced lunches.

Research Related to the Relationship of Socioeconomic Status and Economically Disadvantaged Students Definitions

Research-Based Definition of Socioeconomic Status. The first definition of SES used by this dissertation was based on research. In 1988, Coleman defined SES

through income and social status; however, in 1990 he revised his definition of SES by adding power to income, social status, and power to the definition. Given that the *founder* of SES research is indecisive about the definition of SES, it makes sense that other researchers areas well. Mueller and Parcel (1998) stated,

> Although conclusive empirical evidence does not exist which tells us which dimensions are the most important, there is considerable agreement that occupational-based measures of SES represent the most reliable and valid single measure of an individual's position on the economic, power, and prestige dimensions… sociologists have relied almost exclusively on occupational status to measure SES. (p. 15)

In examining the academic research for the variables that have served as SES measures, researchers have identified the following: income, wealth, and material or financial capital (i.e., economic resources) (Bradley & Corwyn, 2002; Coleman, 1988, 1990; Duncan & Magnuson, 2003; Ensminger & Fothergill, 2003; Entwisle & Astone, 1994; Gottfried, 1985; Hernandez, 1997; Hoff, Laursen, & Tardiff, 2002; Liberatos, Link, & Kelsey, 1998; Liu et al., 2003; Mueller & Parcel, 1981; Oakes & Rossi, 2003; Warner, Meeker,& Ells, 1949). Indicators that have been cited in other studies are education, knowledge and skills, mother's education, and educational attainment (Bradley & Corwyn, 2002; Coleman, 1990; Duncan & Magnuson, 2003; Ensminger & Fothergill, 2003; Entwisle & Astone, 1994; Hernandez, 1997; Liberatos et al., 1998); occupation, employment, occupation of breadwinner, and occupation and education level of the breadwinner (Bradley & Corwyn, 2002; Duncan & Magnuson, 2003; Ensminger & Fothergill, 2003; Hauser, 1994; Liberatos et al., 1998; Warner, Meeker,& Ells, 1949); power (Coleman, 1990; Gottfried, 1985; Hoff et al., 2002; Liu et al., 2003; Mueller & Parcel, 1981; Oakes & Rossi, 2003); prestige (Gottfried, 1985; Mueller & Parcel, 1981);

quality of housing, status of dwelling, and household composition (Hernandez, 1997; Hoff et al., 2002; Liu et al., 2003; Mueller & Parcel, 1981; Oakes & Rossi, 2003; Warner et al., 1949); race and ethnicity (Hernandez, 1997); and social status, social class, social position, and household and family structure (Coleman, 1988, 1990; Entwisle & Astone, 1994).

Students who come into classrooms from low-SES families have distinctive characteristics that set them apart from upper- and middle-class students. Characteristics of low-SES students include (a) a struggle with financial issues (Greenbank, 2006); and (b) chaotic households, less social support, authoritarian/less involved parents, low quality/destructive environment/environmental inequities, and predominantly low-income schools (Evans, 2004). The characteristics exhibited in low-SES students lend themselves in similarities to economically disadvantaged students.

Research-Based Definition of Economically Disadvantaged Students. The second part of the research-based definition was to define economically disadvantaged (ED) students. ED students are also referenced in research as children of poverty (Evans, 2004; Knapp & Shields, 1900; McLoyd, 1997) and low-SES students (McLoyd, 1997). TEA (2015) defined an ED student as "one who is eligible for free or reduced-price meals under the National School Lunch and Child Nutrition Program" (para 5).

These students who are classified as ED tend to enter academia with less-developed cognitive skills and tend to (a) make lower grades/test scores (Axinn, Duncan, & Thornton, 1997; Cooper & Crosnoe, 2007; Crosnoe & Cooper, 2010; Mayer, 1997; McLoyd, 1998); (b) take lower-level course work (Axinn et al., 1997; Cooper &

Crosnoe, 2007; Crosnoe & Cooper, 2010; Mayer, 1997; McLoyd, 1998); (c) ultimately obtain fewer degrees or are less likely to receive a high school degree (Axinn et al., 1997; Barker & Coley, 2007; Cooper & Crosnoe, 2007; Crosnoe & Cooper, 2010; Duncan, Brooks-Gunn, Yeung, &Smith, 1998; Mayer, 1997; McLoyd, 1998; Peters & Mullis, 1997; Raver, Gershoff, & Aber, 2007); (d) attend low-quality schools (Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Huston, 1999; McLoyd, 1990); and (e) drop out of school (Axinn et al., 1997; Cooper & Crosnoe, 2007; Crosnoe & Cooper, 2010; Ewijk & Sleeger, 2010; Mayer, 1997; McLoyd, 1998; Sirin, 2005). ED students also tend to (a) have poor diets/nutritional awareness (Furstenberg et al., 1999; Huston, 1999; McLoyd, 1990); (b) have more financial pressure (Greenbank, 2006); (c) have less parental involvement (Cooper & Crosnoe, 2007; Mayer, 1997; McLoyd, 1998); (d) receive little health care (Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Huston, 1999; McLoyd, 1990); and (e) live in unsafe neighborhoods (Furstenberg et al., 1999; Huston, 1999; McLoyd, 1990).

Given the characteristics of ED students listed above, the researcher concluded that there is a connection with Maslow's Hierarchy Pyramid and the "needs" presented by these students so that they can achieve a high-quality education. The most basic needs for students to achieve, according to Maslow, are their physiological needs (e.g., Do they have an amount adequate of food, water, warmth, and rest?). There are many students entering classrooms in the United States who "experience a high level of one or more deficiency needs. For example, poverty, food insecurity, and parental unemployment have all risen among United States school-age children in recent years" (Noltemeyer,

Bush, Patton, & Bergen, 2012, p. 1,862). The Federal Interagency Forum on Child and Family Statistics (FIFCFS) (2015) recently reported that "twenty percent of all children ages 0–17 (14.7 million) lived in poverty in 2013, down from 22 percent in 2012. This was the first time since 2000 that the child poverty rate declined" (p. 14). Unless these basic needs are met, the child cannot continue with positive improvement on this continuum in order to display levels of growth and development (Hamel, Leclerc, & Lefrancois, 2003). When contemplating what is required for every child to achieve/reach high-quality education, especially low-SES children, Boyd-Zaharias and Pate-Bain (2008) suggested what they called three inconvenient truths: (a) the nation's social class inequalities are vast and growing, (b) schools alone cannot close the achievement gap or solve the dropout problem, and (c) it is going to cost a lot of money to ameliorate the achievement-depressing social and economic conditions of lower-class children's lives and to improve the public schools they attend. Understanding that numerous children experience deficiency needs allows educators to achieve a clearer understanding of these inconvenient truths/relationships. Accepting these relationships serves as a prerequisite for establishing conditions, which increases high-quality education outcomes.

Connection Between Socioeconomic Status and Economically Disadvantaged Students

Using the above definitions and characteristics of both SES and ED students, the researcher found the following four relationships that exist between these two groups. Figure 4 displays a complete list of the similarities and differences.

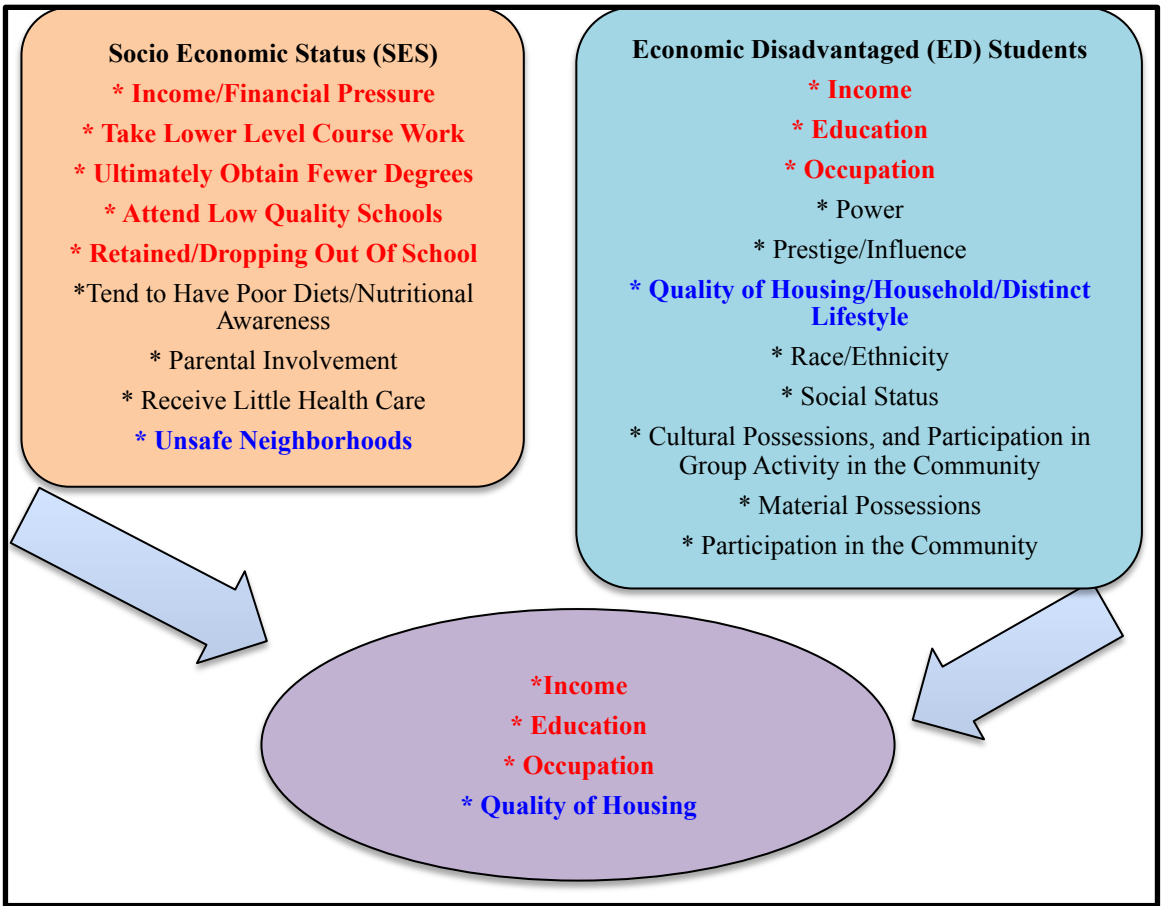


Figure 4. Comparisons between SES and ED students.

The four connections that exist are as follows: (a) income, (b) education, (c) occupation, and (d) quality of housing. Conger, Conger, and Martin (2010) suggested that the pressures placed on families due to economic climate create a positive correlation between the first three indicators (income, occupation, and education). Even though income, education, and occupation are strong indicators for low SES and ED when examined together, Conger, Conger, and Martin (2010) stated that they can be used "as separate variables in data analyses so that investigators can evaluate their unique, additive contributions to family characteristics and human development" (p. 3). Given

that both SES and ED students can be characterized by their lack of financial, educational, and occupational resources (Bradley & Corwyn, 2002; Ensminger & Fothergill, 2003), which correlates to how both the state of Texas and the Oak Independent School District determine which students are eligible for free and/or reduced lunch (education is used as a predictor of future financial/occupational attainment), the researcher concluded there exists a positive correlation.

The final indicator/connection to explore between SES and ED students is quality of housing. For this study, the researcher explored the stability of the housing environment (e.g., mobility of the owners, the percent of income being spent on housing, and the number of occupants in a dwelling) in order to determine the connection between SES and ED students in terms of quality of housing (i.e., housing instability). Ma, Gee, and Kushel (2008) stated that "low income families with children are at high risk of housing instability, with rates ranging from 4% to 16%; approximately 25% to 50% of families receiving public assistance fall behind on housing costs" (p. 50). Boyd-Zaharias and Pate-Bain (2008) suggested that low-SES and ED students are plagued with lower-quality housing.

Defining Socioeconomic Status by the State of Texas Variables

The second definition of socioeconomic status is based on the state of Texas's definition. TEA uses the National School Lunch Program to determine which students qualify for free and/or reduced lunches through financial eligibility. TEA (2015) defines an ED student as "one who is eligible for free or reduced-price meals under the National School Lunch and Child Nutrition Program" (para 5). The data shown in Tables 4 and 5

were compiled for the state, region, and district that the study took place in with regard to the number of students who are (a) eligible for free meals, (b) eligible for reduced-price meals, and (c) other economically disadvantaged students.

Table 4

Economically Disadvantaged Status Reports, 2013-2014 Academic Year

	Eligible for Free Meals		Eligible for Reduced-Price Meals		Other Economically Disadvantaged		Total
	Count	Percent	Count	Percent	Count	Percent	Count
State of Texas	2,265,770	43.98%	358,586	6.96%	471,694	9.16%	3,096,050
Region of Texas	77,276	42.67%	12,363	6.83%	2,634	1.45%	92,273
Oak ISD	10,593	67.30%	1,018	6.47%	22	0.14%	11,633

Source: TEA (2017b).

Table 5

Economically Disadvantaged Status Reports, 2014-2015 Academic Year

	Eligible for Free Meals		Eligible for Reduced-Price Meals		Other Economically Disadvantaged		Total
	Count	Percent	Count	Percent	Count	Percent	Count
State of Texas	2,241,212	42.84%	336,550	6.43%	495,538	9.47%	3,073,300
Region of Texas	78,682	42.44%	12,538	6.76%	1,171	0.63%	92,391
Oak ISD	10,553	66.02%	1,179	7.38%	14	0.09%	11,746

Source: TEA (2017b).

These tables show that there are higher percentages of students who are eligible for (a) free meals and (b)reduced-price meals in Oak ISD than the percentage of students across the state of Texas. This matches the information provided by Oak ISD from 2013, which

states that 73.82% of the students qualified for free and/or reduced lunches (this is the latest statistic available).

Defining Socioeconomic Status Through Oak ISD

Oak Independent School District used (and currently uses) income in relation to the household size according to the United States Department of Agriculture (USDA) to determine which students qualify for free and/or reduced lunches. The National School Lunch Act, Section 9, requires annual adjustments. The income eligibility guidelines for families were adjusted from 2013-2014 to 2014-2015 in order for a student to qualify for free and/or reduced lunches in Oak Independent School District. The variable nature of income qualifications needs made it difficult in this study to accurately identify students who year to year may have had similar levels of housing or food instability.

For the purposes of this study, the researcher used students who qualified for free and/or reduced lunch as the indicator of students classified as low SES. Ensminger et al. (2000) stated there is a strong validity to classify students as low SES by using free and reduced-cost lunch status due to the correlations with other measures of SES (e.g., parent income).

Definition Used in This Dissertation

Tajalli and Opheim (2004) noted, "Researchers examining student performance consistently find that one of the most important influences on student achievement is SES of students" (p. 44). Based on the aforementioned information and concepts/definitions of SES, this study defined a low-SES student using the following criteria: (a) attends kindergarten in Oak ISD and (b) qualifies for Oak ISD's free and/or

reduced-lunch program based on income in relation to the household size according to the USDA beginning on the first day of the academic year.

The Effect of Low Socioeconomic Status on Kindergarten Students

Reports and studies on the relationship between SES and educational attainment (Ainley, Jameson, Jones, Hall, & Farr, 1995; Amato, 1987; Considine & Zappalà, 2002; Mukherjee, 1995; Williams, Connell, & White, 1991), indicate the following patterns in terms of educational outcomes when comparing low-SES children to their high-SES peers: low-SES students tend to (a) be at risk for displaying lower levels of literacy, numeracy, and comprehension; (b) have higher grade retention rates; (c) have lower rates when attending higher education; (d) display greater levels of problematic school behavior (e.g., truancy); (e) not focus on specialized math and science subjects when choosing an area of interest; (f) have greater difficulties with their studies and display negative attitudes to school; and (g) have less successful school to workplace transitions.

The three areas of academic skills most affected by low SES are vocabulary (Colker, 2014; Fernald, Marchman, & Weisleder, 2013; Hart & Risley, 1995, 2003), pre-literacy skills (Duncan & Seymour, 2000; Dyson, Hett, & Blair, 2003; Hoff, 2006, 2013; Kim, 2004; Neuman & Celano, 2001; Rothstein, 2004), and language development (Hart & Risley, 1995; Magunson & Shager, 2010; Turkheimer, Haley, Waldron, D'Onofrio, & Gottesman, 2003; Tyler-Wood, 1993). Hart and Risley's study (1995) explored the meaningful connection between poverty and vocabulary growth, the disconnect experienced between children from high- and low-SES homes, and most importantly how this disconnect continues to increase over time. Hart and Risley discovered that

kindergarten children from high-SES homes had an average vocabulary of 1,116 words when compared to their middle-SES peers, who displayed an average vocabulary of 749 words, and their low-SES peers, who displayed an average vocabulary of 525 words. Hart and Risley concluded that children in their sample from high-SES homes had heard nearly 40 million words by the age of 3, whereas the low-SES children peers had only heard 10 million words.

Pre-literacy skills are also an important area to consider when discussing the academics skills most affected by low-SES students. This area includes skills such as letter recognition and comprehension (Duncan & Seymour, 2000; Dyson et al., 2003). The most important factor for the comparison of low-SES and high-SES students that explains the variation in literacy skills is the number of hours a child has been read to during their preschool years (Rothstein, 2004). The number of books a child has been read to and exposed to in the home also plays an important part in pre-literacy skill development (Kim, 2004).

The area of language development focuses on the structure of language and how language is used to create meaningful conversations. Hart and Risley (1995) discovered that by the age of 3, a child's language and vocabulary begins to mimic the language and vocabulary of their parent. Children have strong language development, depending on language and vocabulary presented in their social environment. Researchers should explore the connections between low-SES students and their academic achievement by examining the difference in the quality of language used in the child's home (Magnson & Shager, 2010; Turkheimer et al., 2003; Tyler-Wood, 1993). Rothstein (2004)

described how children from high- and middle-SES homes are usually talked to and are asked follow-up questions, with the intent of having one-on-one conversation with the child, whereas parents from low-SES homes generally have one-way conversations with their child, with the intent for it to be a directive. Students who come from low-SES homes environments are usually not encouraged to engage in stimulating and complex thinking activities. Children from low-SES environments tend to acquire language at a slower pace than their higher-SES peers, so they exhibit delayed letter recognition and phonological awareness. This places low-SES kindergarten students at risk for future reading difficulties (Aikens & Barbarin, 2008; Letourneau et al., 2013; McLoyd & Shanahan, 1993).

In general, many kindergarten-aged students at all SES levels lack the readiness skills required for successful transition into school (Schulting, Malone, & Dodge, 2005). The educational system is working to minimize readiness gaps of students so that no child is left behind. However, low-income children are usually at increased risk of not having enough school readiness in terms of social development and cognitive skills when compared to their peers from more advantaged backgrounds (Stipek & Ryan, 1997; Zill & Collins, 1995). Farver, Xu, Eppe, and Lonigan (2006) stated:

> In general, studies have reported that families with low-income, low maternal education, and low proficiency in the English language, experience greater hardships, have limited access to resources, and must cope with higher stress levels, all of which diminish the likelihood of their children's school success. (p. 197)

Research states that the effect SES has on a child tends to present itself through many different indicators, such as parental mental health, parental resources, and social support (Kalil & DeLeire, 2004).

Topic 3: The History of DRA and TPRI Testing in Kindergarten

Academic testing is a part of the educational system in Texas and the United States and is used to determine which students are on a level with their peers and which students might be at risk for failure in particular skills. In the past, kindergarten students were tested on their sensory, language, and cognitive abilities in order to find out if any additional help was needed to enable the child to become successful at given tasks (Fletcher & Satz, 1982). With kindergarten moving toward a more academically structured environment, the testing in kindergarten has shifted to screening for student academic risk. Testing in kindergarten is designed to find out if a student is at risk for failing in reading as well as in other skills needed in future grades. Floorman, Fletcher, and Francis (2004) stated that students who do not meet expectations on assessments at their grade level are considered to be at-risk readers. Teachers need reliable assessments to identify at-risk students early in the academic process in order to help students learn the skills they lack. Knowing this information, teachers can identify these students and modify instruction to help them achieve the needed skills instead of letting them fall further behind. Two assessments used in Texas public school kindergarten classrooms are the DRA and the TPRI. The following information outlines the history and development of the DRA and TPRI, as well as the contents of the assessments.

Developmental Reading Assessment

Information on the development of the DRA is posted on the Pearson website. Below is a summary of the work completed in the development of the test. The DRA was developed through the Ohio Department of Education in 1988 following the U.S. Department of Education publication of *A Nation at Risk* in 1983. The report called for a higher level of focus in reading and other core subject areas. The State of Ohio reacted by taking on the task of finding students who were at risk of failing to become fluent readers. To accomplish this task, Ohio school districts used a standardized norm-referenced test. However, the board designing the assessment wanted an assessment that would match the curricular framework for reading as well as drive instruction. Since the board could not find an assessment that matched its goals, it decided to create its own reading assessment. During the next 2 years, Upper Arlington City School District was given permission by Ohio Department of Education to develop its own reading assessment. The Reading Recovery program was designed in 1986. Trained individuals were sent to identify whether or not students were at risk for reading. However, it was soon determined that if classroom teachers administered the test, then they would be able to help those students who were identified to be at risk sooner. In 1988, the Ohio Department of Education accepted the original version of the DRA for use in other school districts. In 2001, as part of the No Child Left Behind Act, a new reading-first program was established in early-elementary schools. The goal of this program was to guarantee that students become proficient readers (Pearson Education, 2011).

The DRA is designed to inform and shape instruction. In turn, its content strives to be responsive to teachers and their needs through continued development and revision of the test. This assessment is intended to be administered by classroom teachers who teach within a rich literature environment. The purpose of the DRA is to:

- assess a student's independent reading level;
- diagnose a student's strengths and weaknesses in relation to accuracy, fluency, and comprehension; and
- assist teachers with the information required to help each individual student through differentiated instruction (Pearson Education, 2011).

In order to achieve these goals, the DRA focuses on accuracy of reading the text, fluency of the reader, and comprehension of the story. Through the DRA, students are exposed to texts from fiction and nonfiction as well as from many different genres of literature. For more information on administration of the DRA, see Appendix A.

The most recent version of the DRA has a high reliability and high validity. Pearson Education (2011) determined the reliability of the DRA assessment through the following methods: Cronbach's alpha, oral fluency and reading comprehension within level equivalency MANOVA, retest reliability for the DRA2, reliability estimates, and inter-rater reliability estimates.

Texas Primary Reading Inventory

In the State of Texas, the TPRI is one of the early reading assessments used in public schools for students in kindergarten and Grades 1 and 2. The kindergarten version of TPRI is a teacher-administered instrument for assessing reading-related skills. The goal of the TPRI assessment is to recognize students who are at risk of having reading difficulties in the early grades (i.e., kindergarten through second grade) and to establish

learning goals for those students identified to be at risk. In 1997, the TPRI was developed through the collaboration of the English and Language Arts Curriculum Department at TEA; the Center for Academic and Reading Skills (CARS) at The University of Texas-Houston Health Science Center (now part of the Children's Learning Institute); and the Texas Institute for Measurement, Evaluation and Statistics at the University of Houston. CARS was later contracted to revise TPRI to achieve better alignment with the newly adopted Texas Essential Knowledge and Skills test and research on reading skills development. In addition, CARS was asked to provide evaluations of the reliability and validity of TPRI, which is an ongoing process (TEA, 2014).

While TPRI maintains the overall design of previous versions, with separate screening and inventory sections, the screening section has been revalidated at the kindergarten and first- and second-grade levels, and many screening items have been replaced. The inventory section features an additional word reading task at each grade level and new items throughout, along with new stories and comprehension questions. The changes are the result of a rigorous development process roughly divided into two broad stages: (a) story development and (b) story piloting and research (TEA, 2014). Additional information about the administration of the TPRI can be found in Appendix B.

The TPRI is a criterion-referenced instrument that illustrates whether or not the student performed at grade level or below grade level on each of the different sections instead of a norm-referenced instrument, which would indicate that a student’s score

could be compared to other students also taking the TPRI test. The age of the students is limited to students who are eligible for kindergarten through third grade (i.e., 5-10 years of age).

The reliability of the TPRI assessment is strong, with very little bias with regard to both gender and ethnicity. The TPRI assessment shows excellent projecting validity accompanied by low false-negative. The most recent version of the TPRI, 2010, has a high reliability and high validity.

CHAPTER II

PROBLEM

Description of Study

This study had two questions, and each question had two parts (i.e., subsections) related to meeting mastery level on the DRA or TPRI assessment in kindergarten. For the first question, the researcher examined the performance/assessment scores of the students who did and did not attend pre-kindergarten in Oak ISD and met mastery level on the DRA and TPRI assessments in kindergarten. For this question, the researcher compared the students that attended and did not attend pre-kindergarten in Oak ISD to determine if there was a difference in performance. The second question examined the gender of the students who attended Pre-K in Oak ISD and met mastery level on the DRA and TPRI assessments in kindergarten. In this question, the researcher compared the male and female performance/assessment scores of the students who attended Pre-K in Oak ISD in order to determine if there was a difference. See Appendix D for a copy of the letter that was submitted to the Internal Review Board (IRB).

Problem Statement

After exploring the literature, there were three underlying items that needed further investigation in regard to the readiness of students entering kindergarten. The first item was the knowledge of the student's background (e.g., if the student attended pre-kindergarten within Oak ISD and the gender of the student,). Second, the student's full academic year DRA and TPRI assessment scores needed to be known. Third, it

needed to be ascertained whether knowing the information about the student and their DRA and TPRI assessments allows researchers and teachers to determine indicators of success in learning knowledge expected to be mastered in pre-kindergarten.

Research Questions

Whether or not a child is *ready* to enter into a kindergarten classroom and complete the academic year successfully (i.e., successfully complete the DRA and TPRI assessments) is an important issue facing parents, teachers, and researchers in general. There are different factors that determine if a child has enough background knowledge and general skills to have a successful experience during the beginning stages of his or her formal education based upon the above-mentioned literature from chapter I. The following research questions guided this study:

- Question 1:
  - Were students who attended pre-kindergarten in Oak ISD able to demonstrate mastery on the DRA?
  - Were students who attended pre-kindergarten in Oak ISD able to demonstrate mastery on the TPRI?
- Question 2:
  - Was the percentage of male students who attended pre-kindergarten in Oak ISD and mastered the DRA higher than the percentage of female students who attended pre-kindergarten in Oak ISD and mastered the DRA?
  - Was the percentage of male students who attended pre-kindergarten in Oak ISD and mastered the TPRI higher than the percentage of female students who attended pre-kindergarten in Oak ISD and mastered the TPRI?

Limitations

One limitation for this study is purposeful sampling. The researcher selected Oak ISD in Texas from which to draw a sample. The results should not be generalized, and

these results may not be applicable to other school districts unless the study populations are similar (e.g., similar school district).

Another limitation is longevity of the study data. This study was conducted using data collected over the course of 2 academic years, which means that the time period used in this study was only a snapshot of these students in Oak ISD. For these results to be duplicated, these same conditions must be found elsewhere.

A final limitation for this study is that the researcher cannot take into account for is the students who attended pre-kindergarten outside of Oak ISD. The students who were classified as not attending pre-kindergarten in Oak ISD were either students who attended private pre-school, a Montessori school, another pre-school/pre-kindergarten classroom environment, or home based learning.

Delimitations

The first delimitation is that this study used data from elementary schools located within Oak ISD. Within these schools, the only population included in the study was kindergarten students. This study focused on successful completion of the kindergarten TPRI and DRA end-of-year (EOY) assessments. This study did not include data on successfully transitioning from kindergarten into first grade.

Additionally, for this particular study, the research used only DRA and TPRI results as successful indicators of completing kindergarten. There are other tests that are administered during the course of the academic year in kindergarten classrooms (e.g., math universal and language arts universal screeners that are administered three times a year as well as several miscellaneous screeners for the school district); however, these

two assessments were chosen based on when they were administered and on the content that is covered on these examinations.

Assumptions

This study was highly dependent on the accessible data available on the topic, which means that the researcher was dependent on the cooperation of Oak ISD personnel in collecting and releasing the data, as well as on the cooperation of teachers and the schools that participated in this study to provide information about preschool attendance of the 2014-2015 kindergarten students. Second, the researcher was dependent on the TPRI and DRA data being completed accurately and in the correct format.

Definitions

Academic Readiness—Parents and teachers often define academic readiness from two different perspectives. Parents usually focus more on intellectual and cognitive skills. Teachers usually perceive social-emotional development and cognitive skills as being equally important for success in kindergarten. The following definition was used in this study: academic readiness is the ability to complete appropriate cognitive skills (e.g., perform tasks such as sorting objects and drawing shapes), listen to given one- to two-step instructions and perform appropriately, indicate some level of independence, display basic number and letter recognition (e.g., can he or she sing the ABCs and 123s), and interact with other students and adults (social/emotional aspects are not addressed in this definition).

Developmentally Appropriate Practice (DAP)—This study used the three core considerations of DAP, according to NAEYC (2009): (a) knowing about child

development and learning, (b) knowing what is individually appropriate, and (c) knowing what is culturally important.

Early Childhood Education—In this study, early childhood education was defined as a portion of the educational branch that teaches young children up until the age of about six, with a particular focus on social, academic, emotional, and general aspects of a child's growth.

Kindergarten Student—This study defined a kindergarten student as a child who: (a) attended Oak Independent School District's public pre-kindergarten program prior to attending a kindergarten within the same district the following academic year, (b) attended the complete kindergarten academic year, and (c) is not repeating kindergarten for a second time (i.e., the student's age is 5 or 6 years).

Low-Socioeconomic Status (SES)—For purposes of this study, the researcher defined a low-SES student by the following criteria: a student who attends Oak Independent School District and qualifies for Oak Independent School District's free and/or reduced-lunch program based on income in relation to the household size according to the USDA beginning on the first day of the academic year.

Pre-Kindergarten—This study defined pre-kindergarten as a student who completed Oak Independent School District's pre-kindergarten program prior to completing kindergarten within the same district the following academic year.

CHAPTER III

METHODOLOGY

Data for Study

There were two separate data sets used in this study. The first data set included students who attended kindergarten during the 2013-2014 academic year. From this population, the researcher looked at the following data:

- TPRI scores (beginning of year [BOY]and EOY).
- DRA scores (middle of year [MOY] and EOY).
- Whether or not students attended a pre-kindergarten located in Oak ISD.
- Gender of the student.

The second data set included students who attended kindergarten during the 2014-2015 academic year. From this population, the researcher looked at the following data:

- DRA scores (MOY and EOY).
- TPRI scores (BOY, MOY, and EOY).
- Whether or not these students attended a pre-kindergarten in Oak ISD.
- Gender of the student.

The sample for the study after the scores not in range were removed was as follows:

- DRA:
  - Kindergarten students who attended pre-kindergarten in Oak ISD:
    - 2013-2014: 212 pre-kindergarten students.
    - 2014-2015: 233 pre-kindergarten students.
  - Male kindergarten students in Oak ISD:
    - 2013-2014: 110 kindergarten students.
    - 2014-2015: 113 kindergarten students.
  - Female kindergarten students in Oak ISD:
    - 2013-2014: 102 kindergarten students.
    - 2014-2015: 120 kindergarten students.

- TPRI:
  - Kindergarten students who attended pre-kindergarten in Oak ISD:
    - 2013-2014: 210 pre-kindergarten students.
    - 2014-2015: 208 pre-kindergarten students.
  - Male kindergarten students in Oak ISD:
    - 2013-2014: 108 kindergarten students.
    - 2014-2015: 97 kindergarten students.
  - Female kindergarten students in Oak ISD:
    - 2013-2014: 102 kindergarten students.
    - 2014-2015: 111 kindergarten students.

Data Collection

The data for this study—DRA and TPRI results and attendance in pre-kindergarten in the year prior to kindergarten—were obtained through Oak ISD Central Office. The data for this study span the course of 2 academic years; however, the study took place over a year's time. The data from the 2013-2014 and 2014-2015 academic years were obtained in October 2015.

The data for the 2013-2014 (MOY and EOY) and 2014-2015 (MOY and EOY) DRA administration were obtained through Oak ISD Central Office. The data were received with the following categories:

- Local ID number.
- Gender (male/female).
- 2013 and 2014 retained kindergarteners (yes/no).
- Attended Oak ISD pre-kindergarten (yes/no).
- DRA MOY assessment score.
- DRA EOY assessment score.

The data for the 2013-2014 (BOY and EOY) and 2014-2015 (BOY and EOY) TPRI administration were obtained from Oak ISD Central Office. The data were received in the following categories:

- Local ID number.
- Gender (male/female).
- 2013 and 2014 retained kindergarteners (yes/no).
- Attended Oak ISD pre-kindergarten (yes/no).
- TPRI BOY assessment score.
- TPRI EOY assessment score.

Data Analysis

The data from both the 2013-2014 and 2014-2015 DRA and TPRI assessments were entered into the Stat Plus (Version 6) statistical program. Due to the quantitative nature of this study, the researcher compared the means using a two-tailed t test to test for the possibility of the relationship of the variables in both directions. This also allowed the researcher to make connections between the independent variables (students who attended pre-kindergarten in Oak ISD and gender) and dependent variables (DRA and TPRI EOY results). A significance level of p=.05 was used in this study to determine statistical significance.

Variables

In this study, the researcher looked at how the independent variables (e.g., students who attended pre-kindergarten located in Oak ISD and gender of the students) related to the dependent variables (e.g., DRA and TPRI results). For example, one relationship demonstrated whether a student's attendance in pre-kindergarten in Oak ISD affected that student's success on the end-of-the year DRA and/or end-of-the year TPRI assessments.

Procedures

DRA Data. The 2013-2014 and 2014-2015 DRA datasets were sorted through the following method. First, scores not in range were removed. Second, all the local ID numbers and their connecting DRA MOY and DRA EOY assessment scores were placed in an Excel document. Next, the researcher sorted local ID numbers based on the student's DRA MOY scores (i.e., all the 0 assessment scores were grouped together). Students without both a DRA MOY and EOY score were removed from the dataset.

Next, the researcher calculated the number of students within each DRA MOY sorting based on their assessment score (i.e., whether or not the student received a 0, 1, 2, 3, 4, 6, 8, 10, 12, etc.). The researcher checked the validity of each of the scores (i.e., determined if the score for this student was reasonable). There were some scores that were not valid due to the DRA EOY scores being a 5, and 5 is not a DRA level. These students were removed from the dataset. The students who were completing kindergarten for a second academic year (i.e., repeating kindergarten) during the 2013-2014 or 2014-2015 academic years were removed from the dataset due to previous exposure to the DRA assessment.

The remaining students were then sorted into the following three groups: (a) remaining students, (b), remaining students with only students who attended Oak ISD pre-kindergarten and (c) remaining students with only students who attended Oak ISD pre-kindergarten broken down by gender.

TPRI Data. The 2013-2014 and 2014-2015 TPRI datasets were sorted through the following method. First, scores not in range were removed. Second, the local ID

numbers and their connecting BOY and EOY assessment scores were placed in an Excel document. Next, the local ID numbers were sorted into the TPRI BOY scores. The TPRI assessment is unique due to the number of skills assessed. These scores were sorted by the number of objectives based on the student's developmental score on the objective (e.g., developed 0-8).

CHAPTER IV

FINDINGS

During this study, the researcher found the following information in regard to those who attended pre-kindergarten in Oak ISD prior to attending kindergarten in Oak ISD the following academic year and the gender of the student when taking the DRA and TPRI assessments. The first purpose of this study was to discover if knowing the student's performance on the DRA MOY and EOY and the TPRI BOY and EOY assessments and knowing if the child qualified and attended pre-kindergarten in Oak ISD prior to attending kindergarten also in Oak ISD would allow teachers to determine success in learning knowledge expected to be mastered in kindergarten. The second purpose of this study was to discover if knowing the student's performance on the DRA MOY and EOY and the TPRI BOY and EOY assessments and knowing the gender of the child would allow teachers to determine indicators of success in learning what is expected to be mastered in kindergarten.

Research Question 1—Part 1

Were students who attended pre-kindergarten in Oak ISD able to demonstrate mastery on the DRA?

For this research question, the researcher looked at the percentage of students who attended and did not attend pre-kindergarten in Oak ISD and met mastery level on the DRA assessment in kindergarten. Tables 6-8 display the results from the study for this research question.

Table 6 displays information on the percentage of students who mastered the DRA objectives on the MOY and EOY administrations for the 2013-2014 and 2014-2015 academic year.

Table 6

Percent of Students Who Attended and Did Not Attend Pre-Kindergarten in Oak ISD That Achieved Mastery on Kindergarten DRA Objectives, 2013-2014 and 2014-2015

	2013-2014		2014-2015	
Percent of Students Who Met Mastery on the DRA	Attended Pre-Kindergarten in Oak ISD (N=212)	Did Not Attend Pre-Kindergarten in Oak ISD (N=336)	Attended Pre-Kindergarten in Oak ISD (N=233)	Did Not Attend Pre-Kindergarten in Oak ISD (N=287)
MOY DRA	27.83%	33.33%	33.05%	28.57%
EOY DRA	87.74%	79.76%	84.12%	75.26%

The data from Table 6 yield some interesting information about the percentage of students who either mastered or did not master the MOY and/or the EOY DRA during the 2013-2014 and 2014-2015 academic year. In each year, both groups showed an increased percentage of students who mastered the kindergarten reading level at the end of the year. In examining individual years, in the 2013-2014 year, the percentage of mastery on the MOY DRA for students who did not attend pre-kindergarten in Oak ISD was larger than that of students who did attend pre-kindergarten in Oak ISD. However, the percentage of mastery on the EOY DRA for students who did attend pre-kindergarten in Oak ISD was larger than that of students who did not attend pre-kindergarten in Oak ISD. The percentage gain for the students who did attend pre-kindergarten in Oak ISD (an increase of 59.91%) was larger than for the students who

did not attend pre-kindergarten in Oak ISD (an increase of 46.43%). In the 2014-2015 year, the percentage of mastery on the MOY DRA for students who attended pre-kindergarten in Oak ISD was larger than that of students who did not attend pre-kindergarten in Oak ISD. However, the percentage of mastery on the EOY DRA for students who did attended pre-kindergarten in Oak ISD was larger than the students who did not attend pre-kindergarten in Oak ISD. The percentage gain for the students who did attend pre-kindergarten in Oak ISD (an increase of 51.07%) was larger than for the students who did not attend pre-kindergarten in Oak ISD (an increase of 46.69%).

Table 7 displays information used to determine if the change in mean scores on the MOY and EOY DRA was significant for the 2013-2014 academic year. For this analysis, a two-tailed t-test was conducted.

Table 7

Test of Significance of Difference in DRA MOY and EOY Means for Students Who Attended and Did Not Attend Pre-Kindergarten in Oak ISD During 2013-2014

Attendance in Pre-kindergarten	N	MOY Mean (Standard Deviation)	EOY Mean (Standard Deviation)	t-test	R^2
Attended in Oak ISD	212	2.01 (1.52)	4.25 (2.84)	$t(424) = 9.97$, $p < .05$	0.58
Did Not Attend in Oak ISD	336	2.17 (1.81)	4.52 (3.48)	$t(672) = 10.85$, $p < .05$	0.66

When observing the individual student attendance groups, both the students who attended pre-kindergarten in Oak ISD and the students who did not attend pre-kindergarten in Oak ISD showed a statistically significant increase in the mean scores by

the EOY. The difference in the means indicates that the percentage of students who did not attend pre-kindergarten in Oak ISD who met mastery on the DRA was lower than that of the students who attended pre-kindergarten.

Table 8 displays information used to determine if the change in mean scores on the MOY and EOY DRA was significant for the 2014-2015 academic year. For this analysis, a two-tailed t-test was conducted.

Table 8

Test of Significance of Difference in DRA MOY and EOY Means for Students Who Attended and Did Not Attend Pre-Kindergarten in Oak ISD During 2014-2015

Attendance in Oak ISD Pre-kindergarten	N	MOY Mean (Standard Deviation)	EOY Mean (Standard Deviation)	t-test	R^2
Attended	233	1.98 (1.69)	4.11 (3.07)	$t(466) = 9.11$, $p < .05$	0.62
Did Not Attend	287	1.91 (1.99)	4.31 (3.96)	$t(574) = 9.10$, $p < .05$	0.61

When observing the individual student attendance groups, both the students who attended pre-kindergarten in Oak ISD and the students who did not attend pre-kindergarten in Oak ISD showed a statistically significant increase in the mean scores by the EOY. The difference in the means indicates that the percentage of students who did not attend pre-kindergarten in Oak ISD who met mastery on the DRA was lower than that of the students who attended pre-kindergarten.

Research Question 1—Part 2

Were students who attended pre-kindergarten in Oak ISD able to demonstrate mastery on the TPRI?

For this research question, the researcher looked at the percentage of students who attended and did not attend pre-kindergarten in Oak ISD and met mastery level on the TPRI assessment in kindergarten. Tables 9-11 display the results from the study for this research question.

Table 9 displays information on the percentage of students who mastered the TPRI objectives on the BOY and EOY administrations for the 2013-2014 and 2014-2015 academic year.

Table 9

Percent of Students Who Attended and Did Not Attend Pre-Kindergarten in Oak ISD That Achieved Mastery on Kindergarten TPRI Objectives, 2013-2014 and 2014-2015

	2013-2014		2014-2015	
Percent of Students Who Met Mastery on the TPRI	Attended Pre-kindergarten in Oak ISD (N=210)	Did Not Attend Pre-kindergarten in Oak ISD (N=335)	Attended Pre-kindergarten in Oak ISD (N=208)	Did Not Attend Pre-kindergarten in Oak ISD (N=284)
BOY TPRI	6.67%	8.36%	3.37%	2.82%
EOY TPRI	70.95%	68.66%	68.27%	68.66%

The data from Table 9 yield some interesting information about the percentage of students who either mastered or did not master the BOY and/or the EOY TPRI during the 2013-2014 and 2014-2015 academic year. In each year, both groups showed an increased percentage of students who mastered the TPRI skills by the end of the year. In

examining individual years, in the 2013-2014 year, the percentage of mastery on the BOY TPRI for students who did not attend pre-kindergarten in Oak ISD was larger than the students who did attend pre-kindergarten in Oak ISD. However, the percentage of mastery on the EOY TPRI for students who did attend pre-kindergarten in Oak ISD was larger than the students who did not attend pre-kindergarten in Oak ISD. The percentage gain for the students who did attend pre-kindergarten in Oak ISD (an increase of 64.28%) was larger than that of the students who did not attend pre-kindergarten in Oak ISD (an increase of 60.3%). In the 2014-2015 year, the percentage of mastery on the BOY TPRI for students who attended pre-kindergarten in Oak ISD was larger than the students who did not attend pre-kindergarten in Oak ISD. However, the percentage of mastery on the EOY TPRI for students who did not attend pre-kindergarten in Oak ISD was larger than that of the students who attended pre-kindergarten in Oak ISD. The percentage gain for the students who did not attend pre-kindergarten in Oak ISD (an increase of 65.84%) was larger than that of the students who attended pre-kindergarten in Oak ISD (an increase of 64.9%).

Table 10 displays information used to determine if the change in mean scores on the BOY and EOY TPRI was significant for the 2013-2014 academic year. For this analysis, a two-tailed t-test was conducted.

Table 10

Test of Significance of Difference in TPRI BOY and EOY Means for Students Who Attended and Did Not Attend Pre-Kindergarten in Oak ISD During 2013-2014

Attendance in Oak ISD Pre-kindergarten	N	BOY Mean (Standard Deviation)	EOY Mean (Standard Deviation)	t-test	R^2
Attended	210	3.44 (2.08)	6.95 (1.23)	$t(420) = 20.16$, $p < .05$	0.27
Did Not Attend	335	2.93 (2.36)	6.83 (1.55)	$t(670) = 5.34$, $p < .05$	0.28

When observing the individual student attendance groups, both the students who attended pre-kindergarten in Oak ISD and the students who did not attend pre-kindergarten in Oak ISD showed a statistically significant increase in the mean scores by the EOY. The difference in the means indicates that the percentage of students who did not attend pre-kindergarten in Oak ISD who met mastery on the TPRI was lower than that of the students who attended pre-kindergarten.

Table 11 displays information used to determine if the change in mean scores on the BOY and EOY TPRI was significant for the 2014-2015 academic year. For this analysis, a two-tailed t-test was conducted.

Table 11

Test of Significance of Difference in TPRI BOY and EOY Means for Students Who Attended and Did Not Attend Pre-Kindergarten in Oak ISD During 2014-2015

Attendance in Oak ISD Pre-kindergarten	N	BOY Mean (Standard Deviation)	EOY Mean (Standard Deviation)	t-test	R^2
Attended	208	2.67 (2.00)	6.89 (1.35)	$t(416) = 5.45$, $p < .05$	0.31
Did Not Attend	284	2.43 (1.93)	6.80 (1.57)	$t(568) = 5.56$, $p < .05$	0.26

When observing the individual student attendance groups, both the students who attended pre-kindergarten in Oak ISD and the students who did not attend pre-kindergarten in Oak ISD showed a statistically significant increase in the mean scores by the EOY. The difference in the means indicate that the percentage of students who did not attend pre-kindergarten in Oak ISD who met mastery on the TPRI was lower than that of the students who attended pre-kindergarten.

Research Question 2—Part 1

Was the percentage of male students who attended pre-kindergarten in Oak ISD and mastered the DRA higher than the percentage of female students who attended pre-kindergarten in Oak ISD and mastered the DRA?

For this research question, the researcher looked at the percentage of male and female students who attended pre-kindergarten in Oak ISD and met mastery level on the DRA assessment in kindergarten. Tables 12-14 display the results from the study for this research question.

Table 12 displays information on the percentage of students who mastered the DRA objectives on the MOY and EOY administrations for the 2013-2014 and 2014-2015 academic year.

Table 12

Percent of Male and Female Students Who Achieved Mastery on Kindergarten DRA Objectives, 2013-2014 and 2014-2015

Percent of Students Who Met Mastery on the DRA	2013-2014		2014-2015	
	Males (N=110)	Females (N=102)	Males (N=113)	Females (N=110)
MOY DRA	33.64%	21.57%	33.63%	32.50%
EOY DRA	86.36%	89.22%	79.65%	88.33%

The data from Table 12 yield some interesting information about the percentage of students who either mastered or did not master the MOY and/or the EOY DRA during the 2013-2014 and 2014-2015 academic year. In each year, both groups showed an increased percentage of students who mastered the kindergarten reading level by the end of the year. In each year, the percentage of male students who met mastery on the MOY was higher than for female students. However, in each year, the percentage of female students who met mastery on the EOY was higher than the male students. The percentage of male students demonstrating mastery on the MOY was about the same in both years. The percentage of female students increased by 10.93% from 2013-2014 to 2014-2015. The reverse relationship occurred with the males for the EOY assessment. During the EOY assessment, the percentage of female students demonstrating mastery

on the EOY was about the same in both years. The percentage of male students decreased from 2013-2014 to 2014-2015 by 6.71%. In examining individual years, in the 2013-2014 year, the percentage gain for the female students (an increase of 67.65%) was larger than that of the male students (an increase of 52.72%). In the 2014-2015 year, the percentage gain for the female students (an increase of 55.83%) was larger than that of the male students (an increase of 46.02%).

Table 13 displays information used to determine if the change in mean scores on the MOY and EOY DRA was significant for the 2013-2014 academic year. For this analysis, a two-tailed t-test was conducted.

Table 13

Test of Significance of Difference in DRA MOY and EOY Means for Male and Female Students During 2013-2014

Gender	N	MOY Mean (Standard Deviation)	EOY Mean (Standard Deviation)	t-test	R^2
Male	110	2.19 (1.83)	4.36 (3.04)	$t(220) = 6.42$, $p < .05$	0.66
Female	102	1.80 (1.07)	3.99 (2.66)	$t(204) = 7.72$, $p < .05$	0.49

When observing the individual genders, both the male and female students showed a statistically significant increase in the mean scores by the EOY. The difference in the means indicates that the percentage of male students who met mastery on the DRA was higher than that of the female students.

Table 14 displays information used to determine if the change in mean scores on the MOY and EOY DRA was significant for the 2014-2015 academic year. For this analysis, a two-tailed t-test was conducted.

Table 14

Test of Significance of Difference in DRA MOY and EOY Means for Male and Female Students During 2014-2015

Gender	N	MOY Mean (Standard Deviation)	EOY Mean (Standard Deviation)	t-test	R^2
Male	113	2.10 (2.10)	4.35 (3.78)	$t(226) = 5.39$, $p < .05$	0.73
Female	120	1.88 (1.19)	3.88 (2.19)	$t(240) = 8.51$, $p < .05$	0.37

When observing the individual genders, both the male and female students showed a statistically significant increase in the mean scores by the EOY. The difference in the means indicate that the percentage of male students who met mastery on the DRA was higher than that of the female students.

Research Question 2—Part 2

Was the percentage of male students who attended pre-kindergarten in Oak ISD and mastered the TPRI higher than the percentage of female students who attended pre-kindergarten in Oak ISD and mastered the TPRI?

For this research question, the researcher looked at the percentage of male and female students who attended pre-kindergarten in Oak ISD and met mastery level on the

TPRI assessment in kindergarten. Tables 15-17 display the results from the study for this research question.

Table 15 displays information on the percentage of students who mastered the TPRI objectives on the BOY and EOY administrations for the 2013-2014 and 2014-2015 academic year.

Table 15

Percent of Male and Female Students Who Achieved Mastery on Kindergarten TPRI Objectives, 2013-2014 and 2014-2015

	2013-2014		2014-2015	
Percent of Students Who Met Mastery on the TPRI	Males (N=108)	Females (N=102)	Males (N=97)	Females (N=111)
BOY TPRI	7.41%	5.88%	4.12%	2.70%
EOY TPRI	69.44%	72.55%	71.13%	65.77%

The data from Table 15 yields some interesting information about the percentage of students who either mastered the BOY and/or the EOY TPRI during the 2013-2014 and 2014-2015 academic year. In each year, both groups showed an increased percentage of students who mastered the TPRI skills by the end of the year. In each year, the percentage of male students who met mastery on the BOY was higher than for female students. In examining individual years, in the 2013-2014 year, the percentage gain for the female students (an increase of 66.67%) was larger than that of the male students (an increase of 62.03%). In the 2014-2015 year, the percentage gain for the

male students (an increase of 67.01%) was larger than for the female students (an increase of 63.07%).

Table 16 displays information used to determine if the change in mean scores on the BOY and EOY TPRI was significant for the 2013-2014 academic year. For this analysis, a two-tailed t-test was conducted.

Table 16

Test of Significance of Difference in TPRI BOY and EOY Means for Male and Female Students During 2013-2014

Gender	N	BOY Mean (Standard Deviation)	EOY Mean (Standard Deviation)	t-test	R^2
Male	108	3.44 (2.02)	6.95 (1.16)	$t(216) = 14.35$, $p < .05$	0.28
Female	102	3.44 (2.15)	6.95 (1.31)	$t(204) = 4.85$, $p < .05$	0.27

When observing the individual genders, both the male and female students showed a statistically significant increase in the mean scores by the EOY. There was no difference in the means between the male and female students who met mastery on the TPRI.

Table 17 displays information used to determine if the change in mean scores on the BOY and EOY TPRI was significant for the 2014-2015 academic year. For this analysis, a two-tailed t-test was conducted.

Table 17

Test of Significance of Difference in TPRI BOY and EOY Means for Female and Male Students During 2014-2015

Gender	N	BOY Mean (Standard Deviation)	EOY Mean (Standard Deviation)	t-test	R^2
Male	97	2.79 (2.06)	6.93 (1.48)	$t(194) = 14.78$, $p < .05$	0.38
Female	111	2.57 (1.94)	6.87 (1.23)	$t(222) = 18.16$, $p < .05$	0.24

When observing the individual genders, both the male and female students showed a statistically significant increase in the mean scores by the EOY. The difference in the means indicates that the percentage of male students who met mastery on the DRA was higher than that of the female students.

CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary of the Research

For this study, there were two separate data sets used. Data from the 2013-2014 academic year for both the TPRI BOY and EOY assessment scores and the DRA MOY and EOY assessment scores were used for the first data set. Data from the 2014-2015 academic year for both the TPRI BOY and EOY assessment scores and the DRA MOY and EOY assessment scores were used for the second data set. Both data sets included the following information: (a) whether or not students attended a pre-kindergarten located in Oak ISD and (b) the student's gender. The original kindergarten population scores that were not in range for the current study were removed.

This study had three purposes. The first was to ascertain knowledge of the student's background (e.g., if the student attended pre-kindergarten within Oak ISD and/or the gender of the student). The second was to acquire the student's full academic year DRA and TPRI assessment scores. The third was to ascertain whether knowing the information about the students and their DRA and TPRI assessments would allow researchers and teachers to determine indicators of success in learning knowledge expected to be mastered in pre-kindergarten.

Determining if a child is ready and will be successful for kindergarten is a key question for educators and parents. Understanding what a child needs to know in order to achieve academic success during his or her kindergarten year is of critical importance.

The DRA and TPRI assessments are two assessments that teachers in Texas can use to help track their students' progress during the academic year. In this study, the researcher used data from the administration of the DRA and TPRI in Oak ISD from the 2013-2014 and 2014-2015 academic years. The assessment scores were acquired through Oak ISD Central Office. Using these datasets, the researcher wanted to answer the following questions:

- Question 1:
  - Were students who attended pre-kindergarten in Oak ISD able to demonstrate mastery on the DRA?
  - Were students who attended pre-kindergarten in Oak ISD able to demonstrate mastery on the TPRI?
- Question 2:
  - Was the percentage of male students who attended pre-kindergarten in Oak ISD and mastered the DRA higher than the percentage of female students who attended pre-kindergarten in Oak ISD and mastered the DRA?
  - Was the percentage of male students who attended pre-kindergarten in Oak ISD and mastered the TPRI higher than the percentage of female students who attended pre-kindergarten in Oak ISD and mastered the TPRI?

Findings Collected from the Study

Question 1 Discussion

There is a growing interest on the impact of early childhood education programs on preschoolers and, in particular, on the magnitude of cognitive and affective gains for children considered at risk of school failure in the early grades (Camilli et al., 2010). Students that attend pre-kindergarten classrooms tend to enter kindergarten with better language development, math skills, and reading skills (Burchinal, Peisner-Feinberg, Bryant, & Clifford, 2000; Lo Casale-Crouc et al., 2007; Pianta, LaParo, Payne, Cox, & Bradley, 2002). Students who attend pre-kindergarten are usually determined to have

increased levels of school readiness as determined by their kindergarten teachers' assessment of the students' ability to follow directions, interact with their peers, and engage in the learning process (LoCasale-Crouch et al., 2007; Peisner-Feinberg et al., 1999).

As noted in Chapter I, prior to attending kindergarten, children are primarily socialized and educated by their families and caregivers and the opportunities they have had to explore the world. If a child has attended a pre-kindergarten environment, that education can supplement academic readiness. However, if children do not have the opportunity to attend pre-kindergarten or their parent chooses for them not to attend a pre-kindergarten environment prior to beginning their kindergarten academic year, these students have a stronger possibility of being at risk for academic success. The research presented above suggests that students who do not attend pre-kindergarten prior to their kindergarten academic year are not as successful as their peers who do attend pre-kindergarten.

The students in this study who did not attend pre-kindergarten in Oak ISD prior to beginning kindergarten had a lower percentage of academic success on the EOY DRA assessment during both the 2013-2014 and 2014-2015 academic years when compared to their peers who did attend Oak ISD pre-kindergarten prior to attending kindergarten. A majority of the students who did not attend pre-kindergarten did make progress from their MOY assessment to a successful completion of their EOY assessment's standards. The higher percentage of success achieved by the students who attended pre-kindergarten can partly be explained by the larger sample of pre-kindergarteners

compared to the sample of students who did not attend pre-kindergarten. However, an examination of the t-tests reveals that the students who did not attend pre-kindergarten scored higher when compared to their peers who attended pre-kindergarten in Oak ISD on both the MOY and EOY DRA assessment during the 2013-2014 and 2014-2015 academic years (except on the t-test for MOY 2014-2015 that looked at students who attended and did not attend pre-kindergarten means).

Further, the researcher looked at the TPRI assessment to determine if attending pre-kindergarten in Oak ISD allows more students to achieve mastery than their peers who do not attend pre-kindergarten in Oak ISD. For the TPRI assessment, the students in this study who did attend pre-kindergarten prior to beginning their academic kindergarten year had about the same percentage of students who met mastery standards when compared to the students who did not attend pre-kindergarten. However, the t-test results from the TPRI assessment reflected a different outlook. The students who attended pre-kindergarten scored higher when compared to their peers who attended pre-kindergarten in Oak ISD on both the BOY and EOY TPRI assessment during the 2013-2014 and 2014-2015 academic years.

Determining if pre-kindergarten is an effective intervention to prepare students for future academic success on the DRA and TPRI assessments depends on what skills one is assessing the students for. According to this study, attending pre-kindergarten made a difference for mastery on the TPRI assessment; however, for the DRA assessment, attending pre-kindergarten did not make a difference for academic success. One explanation for the differential effect of pre-kindergarten on kindergarten

assessments is the curriculum used in each grade. Items assessed by the TPRI are included in the pre-kindergarten curriculum; the reading skills assessed by the DRA are taught for the first time during kindergarten. Thus, students who attended pre-kindergarten are assessed in kindergarten by the TPRI on 2 years of instruction, whereas the DRA assesses only 1 year of instruction.

Question 2 Discussion

The research on gender in relation to kindergarten literacy development and assessments is not consistent with female and male students' achievement. When compared to their male peers, female students tend to have stronger reading skills developed prior to entering kindergarten, and the differences between females and males will either remain constant or increase during the course of their elementary school years (Below, Skinner, Fearrington, & Sorrell, 2010). Females from every ethnicity tend to score higher on reading assessments than male students (Cornwell, Mustard, & Van Parys, 2013). Other studies suggest that the reason female students are more successful in reading is due to teachers paying more attention to females than males (Coley, 2001; Gambell & Hunter, 1999; Lummis & Stevenson, 1990; Matthews, Pontiz, & Morrison, 2009; Ready, LoGerfo, Burkham, & Lee, 2005).

When examining if gender has an effect on academic success during the kindergarten year, the researcher first used the DRA assessment to make comparisons between these two sample groups. The DRA assessments included about the same number of males as females for both the 2013-2014 and 2014-2015 academic years. Having sample groups with such similar numbers allows for easier comparison between

these two sample groups. A majority of the percentage of males and females were able to achieve mastery of the DRA assessment during both academic years. The t-test in this study revealed males achieved higher academic success when compared to the females on both assessment years of the DRA when comparing the means.

The researcher examined gender of the students to determine if it has an effect on academic success on the TPRI assessment in Oak ISD. The sample size of male and female students included for the TPRI assessments was similar as well. During both assessment years, a majority of the males and the females included in this study achieved mastery on the TPRI assessment. During the 2013-2014 academic year, a higher percentage of male students achieved mastery on the EOY TPRI assessment than the female students from the same academic year. However, during the 2014-2015 academic year, the female students had a higher percentage of mastery on the EOY TPRI assessment than the male students from the same academic year. The t-test in this study also revealed similar comparisons between the males and the females on both assessment years of the like the DRA assessment when comparing the means. Although the data from the t-tests were similar, the males scored higher on the TPRI when compared to the females (except for the 2013-2014 t-test when comparing gender to the BOY and EOY TPRI assessments).

The performance data from the female and male students was similar on both the DRA and TPRI assessments for the 2013-2014 and 2014-2015 academic years. The lack of significant difference between scores of male and female students makes it difficult to determine if gender truly makes a difference on the kindergarten DRA and TPRI

assessments. In order to best to help female and male students, this study suggests that teachers need to implement more academically centered interventions for both male and female students during the academic year (especially at the beginning of the year) for skills assessed on both the DRA and TPRI for the duration of the year.

Implications for Practice

Both the DRA and TPRI assessments are used as tools to provide information to schools, teachers, and parents on the child's phonics, phonemic awareness, comprehension, and oral reading. This information allows teachers to target reading instruction on an individual basis for each child in order to build upon the skills still needed. Thus, when looking at what the TPRI and the DRA assess, there are more connections to the material being presented in pre-kindergarten in association with the TPRI assessment than the DRA assessment. This allows students who attend pre-kindergarten in Oak ISD to be more prepared for the TPRI assessment than for the DRA assessment. By creating a stronger phonological awareness and phonics base, the students who attend pre-kindergarten in Oak ISD will have the ability to apply these skills to the skills needed to achieve academic success on the DRA assessment. The researcher suggests that teachers put into place more academically centered interventions during the year on skills assessed on the TPRI and DRA for the duration of the year, especially for students who did not attend pre-kindergarten in Oak ISD prior to attending kindergarten.

Recommendations for Future Studies

Based upon the results of this study, the researcher developed some suggestions for future studies and for ways to modify studies similar to the current study. First, this study was completed using kindergarten students in Oak ISD; a possible extension of this research could examine student performance in a district whose demographics parallel those of Oak ISD. The researcher also suggests replicating the study using first-grade and second-grade students to determine if similar results would occur. Last, future studies might explore whether the TPRI and DRA EOY assessments are correlated to third-grade STAAR assessments. All three of these suggestions implemented in future studies could provide results that might enable teachers to predict their students' scores more closely and put into place early interventions for the students that need the most help.

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APPENDIX A

ADMINISTRATION OF THE DRA

The Developmental Reading Assessment (DRA) is a standardized reading test used by classroom teachers to determine a student's instructional reading level. To administer the DRA, students read a story and then retell what they have read to the teacher. The test is designed to increase in difficulty as the student progresses through the stories. The kindergarten DRA middle-of-year (MOY) test is administered in January and the DRA end-of-year (EOY) is administered in April. There is not an assessment at the beginning of the year (BOY) for the kindergarten DRA. In order to receive an accurate score on the DRA assessment, teachers need to test in a part of the room that is quiet and has minimal distractions. It also important that other students are not listening to the stories due to the limited number of stories available per level. Unlike the TPRI test, the DRA assessment should take place in one sitting. Breaking the story or the retelling in two different administrations can cause confusion for the student and teacher. It is not required to have each story read; however, the teacher should mark which stories were skipped.

In kindergarten, students start at a Level A reading book. This is the lowest level book available for the DRA test. By the end of kindergarten, students need to progress to at least a Level 3 in order to be on grade level with their reading level. This means that the student was able to read an A-, 1-, 2-, and 3-level book during the course of the year. Each grade level has reading goals for students to master on the DRA. Levels available

are specified on a scale from A through 44 (A, 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28, 30, 34, 38, 40, and 44). There are two available texts for each level.

The test is administered with scores handwritten on scoring sheets. The materials needed are running record sheets for each story to be tested and the story (for Levels 14 and above, a stopwatch is needed to find the words-per-minute metric). Three to four aspects of oral reading are rated on a 4-point scale: expression, phrasing, rate, and accuracy. During the administration of the DRA, the teacher chooses a level that is a good estimate of where a student is able to be successful. This is very important in order to avoid frustrating the student. If the student becomes frustrated, then the assessment might not be accurate. If the student is struggling, the teacher can stop the test and go back to an easier book or say, "This isn't a very good book to read today. We will read another time together." Likewise, the student could easily read a story with few or no errors, which means moving to the next story is the best option.

Each story administration begins with an introduction of the story and picture walk. A picture walk is where the teacher and student go through the book only looking at the pictures (not reading the words) and deciding what is happening in the story. Each page in the book has words and a matching picture. On lower levels, the words are on the left page and the picture is on the right. As the books increase in difficulty, the pictures and words begin to appear on the same page, with more space for a longer story. The teacher says "The story you are going to read is called _____. This story is about _____. Let's do a picture walk to find out more about the story." Once the picture walk has been completed, the teacher says, "Now we are going to read the story. I am going to

read the first page to you. Please follow along the story with me. Notice how I point to each word as I read." This set of directions is very important because it models how the teacher wants the student to read the story. The teacher then proceeds to read the first page of the story. After this is completed the teacher says, "Now it is your turn to read the story. I will be following along with you and writing as you read." While the student is reading the remaining pages, the teacher should be scoring the reading record sheet. The number of errors the student receives determines which story the student should read next. If the student has too many miscues (e.g., not pointing to a word, omitting words, replacing one word with another, and other miscues), then the student needs to go down one story level. If the student reads the story and does not meet the maximum number of miscues for that story, then the student should move on to the next story. The general rule for miscues is as follows:

- At least 90% accuracy (Levels A-1).
- At least 91% accuracy (Level 2).
- At least 94% accuracy (Levels 3-44).

This entire process is completed as many times as needed until the teacher finds the student's independent reading level. The independent reading level is achieved if the student is able to read a story with minimal miscues, but if the student went to the next level, the number of miscues would be too great (i.e., if a student at an acceptable story Level 2, reads a story Level 3 and had too many miscues, then their story level is 2). Once the student achieves his or her independent reading level, there are two different conclusions to the DRA assessment. For Levels A-2, there are some minor questions

about letter recognition and sounds the letters make. Once the questions are answered, the assessment is over. The second conclusion for the DRA assessment is for story Levels 3-16. At the conclusion of the stories, the teacher closes the book and asks the student to retell the story (including a beginning, middle, and end structure). There is a check-off sheet included in the running record of major events from the story that the student needs to mention during the retelling. At the conclusion of the retelling, the assessment is over.

APPENDIX B

ADMINISTRATION OF THE TPRI

During the kindergarten academic year, there are three administrations of the Texas Primary Reading Inventory (TPRI): beginning-of-year (BOY) occurs six weeks from the start of the school year, middle-of-year (MOY) occurs in mid-January, and end-of-year (EOY) occurs in mid-April. These administration windows are only a recommendation. Each school district actually sets the official testing window within the above-mentioned parameters, which means a school district may be administering the test either a week ahead of or behind that of another school district due to particular needs of the district. Although the administration can start at different times, the assessment needs to be completed in all the classrooms across the district two weeks after the official start date the district has designated. All students in the classrooms are required to take the TPRI test. The classroom teachers administer this test in order to gain insight into their students' abilities. The teachers are required to go through an initial training in order to administer and score the TPRI appropriately the first year of administering the TPRI.

In Oak ISD, there are eight areas on the TPRI that are scored and assessed in order to receive a passing score for completion of kindergarten: rhyming, blending phonemes, blending word parts, deleting initial sound, deleting final sound, letter name identification, letter-sound linking, and story (comprehension section). Each of the eight sections has one group of questions except for the story section. During the story section,

there are three subsections, which are recalling details, linking details, and inferring word meaning. The first five sections have five questions each. Students answer four or five questions correctly in order to receive a developed score (successful completion of a section). Letter name identification has 26 questions, and the student must correctly respond to 20 of the questions to receive a developed score. Letter-sound linking has 10 questions, and the student must correctly respond to at least eight of the questions for a developed score. The story section has six questions (three questions in each section) and the student must correctly respond to five of the questions to receive a developed score for this section. In Oak ISD, a successful completion of the TPRI EOY is to have a developed score on six of the eight sections. Sections that are marked as developed are scored as D, with the number of questions to which the student correctly responded. Likewise, sections that are marked as still developing are scored as SD, with the number of questions to which the student correctly responded. If a student receives an SD score, this means that they did not successfully complete the required number of questions in the section.

There are also additional sections on TPRI that are not considered when determining if a student successfully completed TPRI. Those sections are SC1-Letter Sound (initial screener on BOY), SC2-Blending Onset-Rimes and Phonemes (initial screener on BOY), SC3-Letter Sound (initial screener EOY), and SC4-Blending Onset-Rimes and Phonemes (initial screener on EOY). There are three sections that are optional to administer on TPRI; however, in Oak ISD, the teachers administer all three, which are Book and Print Awareness (administered during all three TPRI tests) and

Word Reading Set 1 and Set 2 (only administered during the EOY). See Figure 1 in the main body of this document for a sample of completed TPRI administration results.

The test can be administered on a handheld device (e.g., an iPad or computer) or handwritten on scoring sheets. If administering the TPRI on a handheld device, the teacher reads the directions prompted by the screen on each section. Some sections require a visual for the student to read to the teacher (e.g., on the letter name identification section, the student has a visual of all 26 letters in random order and each letter is represented in uppercase and the lowercase).

For the TPRIBOY, the teacher starts with the initial screeners (SC1-Letter Sound and SC2-Blending Onset-Rimes and Phonemes). These initial screeners have no effect on the outcome of the test; their purpose is to mark where the student is with his or her letter sounds and blending. The next section is the book print and awareness section. During this section, the teacher uses a visual aid depicting a frog followed by three sentences about the frog. The teacher reads the three sentences to the student and then asks the student five questions related to the sentences. The questions asked are as follows: (1) Where do you start reading this story? (2) Can you find a sentence on this page? (3) Can you find a capital letter? (4) Can you find a lowercase letter? and (5) Can you find a word on this page? Although this section is optional, it reveals important information about the student's knowledge of the different parts of reading a story.

The next section on TPRI is rhyming. There are five questions to administer during this section. There is no visual aid; the teacher states two words and the student must state a word that rhymes (e.g., *cat/mat*—"Tell me a word that rhymes with cat and

mat). Whether the student receives an SD or a D, the teacher moves on to the next section, which is blending word parts. There are five questions to administer during this section. There is no visual aid; the teacher states a word that is divided into word parts and the student must blend the word together (e.g., for *cat*, the teacher states, "If I said the word /c/ /at/, then it would be ___?") The student must answer four of five questions correctly in order to move to the next section, which is blending phonemes. If the student does not answer four out of five questions correctly, then the student automatically moves to the letter name identification section.

During the blending phonemes section, there is no visual aid. The teacher states a word that is divided into phonemes and the student must blend the word together (e.g., for *skate*, the teacher states, "If I said the word /sk/ /A/ /t/, then it would be ___?"). The student must answer four of five questions correctly in order to move to the next section, which is deleting initial sound. If the student does not answer four out of five questions correctly, then the student automatically moves to the letter name identification section. During the deleting initial sounds section, there is no visual aid. The teacher states a word, then asks what the word would be without the initial sound (e.g., for *cat*, the teacher states, "Say the word cat." The student states the word "Cat." Then the teacher says, "Now say cat without the /c/ sound." The student would need to say "At" to receive a correct score for this question). The student must answer four of five questions correctly in order to move to the next section, which is deleting final sounds. If the student does not answer four out of five questions correctly, then the student automatically moves to the letter name identification section.

During the deleting final sounds section, there is no visual aid. The teacher states a word, then asks what the word would be without the final sound (e.g., for *tab*, the teacher states, "Say the word tab." The student states the word "tab." Then the teacher says, "Now say tab without the /b/ sound." The student would need to say "ta" to receive a correct score for this question). The student must answer four of the five questions correctly in order to successfully complete this section with a developed score. Whether or not the student answers four out of the five questions correctly or not, the student automatically moves to the letter name identification section. During the letter name identification section, there is a visual aid with all 26 letters assembled in a random order in two equal columns. The teacher asks the student to say the name of the letter. The teacher marks which letters are identified correctly or not correctly identified. The student must answer 20 of the 26 questions correctly in order to move to the next section, which is letter-sound linking. If the student does not answer the 20 out of the 26 questions correctly, then the student automatically moves to the story section.

During the letter-sound linking section, there is a visual aid of five rows each composed of three random letters. During this section, the teacher states a word and then asks the student what sound is at the beginning of that word. (e.g., for *mommy*, the teacher says, "What sound is at the beginning of the word 'mommy'?" Then the teacher shows the first row of three letters and says, "Which of these letters makes that sound?" The student would need to state /m/ and point to the "m," respectively, in order to receive a correct response on both parts of this question). The student must answer eight of the 10 questions correctly in order to successfully complete this section with a

developed score. Whether or not the student answers eight out of the 10 questions correctly or not, the student automatically moves to the story section. For the story section, the teacher reads a short story and then asks the student six questions. The student must answer five of the six questions correctly in order to successfully complete this section with a developed score. Whether or not the student answers five out of the six questions correctly or not, the student is automatically finished with the TPRI and receives his or her score.

For the TPRI MOY, the test is administered in the same manner as the BOY. The biggest difference is that if the student received a score of developed on a required section during the BOY, then that section is not assessed during the MOY TPRI administration (e.g., if a student received a developed score on the rhyming section on the TPRI BOY, then this section is not repeated on the TPRI MOY). The only required section that is repeated whether the student received a developed score on the previous TPRI administration is the story section. The student completes the story section of TPRI three times during the course of the academic year. Once the story section is completed, then the student is automatically finished with the TPRI and receives his or her score.

For the TPRI EOY, the test is administered in the same manner as the MOY except for the initial screeners at the beginning of the assessment. The two TPRI EOY initial screeners are put in place to determine if the student can omit certain sections of this TPRI administration. The two screeners are the SC3-Letter Sound and the SC4-Blending Onset-Rimes and Phonemes. Successful completion of the SC3-Letter Sound

allows the child to omit the letter name identification section. Likewise, successful completion of the SC4-Blending Onset-Rimes and Phonemes allows the student to omit the blending word parts and blending phonemes sections. The rest of the TPRI EOY is administered the same as the TPRI MOY until the student completes the story section. After this section, the student automatically moves to the word reading Set 1 and 2 sections. During this section, the student is given a visual aid that lists five words in a single column for each word list. The student is directed to read the words. The teacher marks if the student correctly responded to the given word or made a miscue when stating the word (e.g., for *cat*, the student would need to say "cat" in order to receive a correct mark on this word. However, the student could respond with "cap" as one incorrect response to the question. If the student responds incorrectly, then the teacher marks what the student said before moving to the next word). Once the second word reading set section is completed, then the student is automatically finished with this administration of the TPRI and receives his or her final TPRI score.

APPENDIX C

IRB EXEMPTION LETTER

This study's underling question has two parts: First, how much does a student's socioeconomic status as defined by free and reduced lunch status (Title I status) and preschool attendance contribute to the student's success on the kindergarten end-of-year Texas Proficiency Reading Inventory (TPRI) and Developmental Reading Assessment (DRA)? The second part seeks to determine the predictive power of combining the items from the first question with student performance on the October and January administrations of the TPRI and the January administration of the DRA.

The data necessary to complete this study are as follows: TPRI (beginning, middle and end of the year) and DRA (middle and end of the year) results from 2013-2014 and 2014-2015 academic school years, identification of students that qualify for Title I support, and student enrollment in pre-kindergarten programs.

For the first part, I will use existing data to develop a predictive model for successful completion on both of the end-of-year assessments. The second part of the study will use this predictive model and apply it to the 2014-2015 kindergarten TPRI (beginning and middle results) and DRA assessments (middle-of-year results) to predict performance on end-of-year tests.

The goal of this project is to discover a model that can be used by kindergarten teachers to predict how their students will do on these end-of-year assessments paired with the results from the first administration of each of these assessments.

The data necessary to complete this study are available as part of Oak ISD records for student performance (the school district used for the study). I will secure data by coding it to protect privacy by assigning non-identifying numbers to students' responses and storing data in a secure location. The coded data will be analyzed using regression through SPSS.

During this study, there will be no interaction with the students, teachers, or parents. I am only interested in looking at the data for these three academic years. I am a certified EC-4 teacher and I am currently teaching kindergarten at an elementary school in Oak ISD. The results of this study will be shared with Oak ISD to improve identification of students in need of additional assistance in achieving their kindergarten learning goals.